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A Study of Self Efficacy, Grit, Persistence, and Professional Development of Select Texas Public School Principals Participating in the Principal Pipeline Program

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A STUDY OF SELF EFFICACY, GRIT, PERSISTENCE, AND PROFESSIONAL DEVELOPMENT OF SELECT TEXAS PUBLIC SCHOOL PRINCIPALS PARTICIPATING IN THE PRINCIPAL PIPELINE PROGRAM

A Dissertation

by

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ABSTRACT

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The purpose of this study was to examine if a relationship existed between the self-efficacy and grit of selected principals; the differences in self-efficacy and grit among the principals who did and did not participate in a principal development program; and the differences in self-efficacy, grit, and persistence in the job role of the selected principals with varying years of experience. The study focused on Texas public school districts in the Principal Pipeline program and included 101 principal responses. Data collection occurred via an electronic survey. In this quantitative study, a correlational research design was the means used to address Research Question 1. A multivariate analysis of variance commenced to analyze the data related to the research questions.

The findings of this study showed a direct, significant relationship between principal self-efficacy and grit. Additionally, the principals who participated in an additional professional development program separate from their districts had slightly higher self-efficacy and grit scores than those who did not. The findings showed that the principals had the highest self-efficacy within their first 3 years and the lowest self-efficacy between 4 and 10 years. The principals did not have an upward trend in self-efficacy until their 11th year in the role.

Regarding self-efficacy and grit for different demographics, the study found that gender had no influence on principal self-efficacy and grit. The high school principals had the lowest mean scores for self-efficacy, while junior high and middle school principals had the highest scores. Elementary principals had the lowest level of grit, while high school principals had the highest. The most significant finding of self-efficacy and grit related to the age demographic. The study's data suggest that as principals mature, their levels of self-efficacy and grit increase. The recommendations for future research include examining how to include self-efficacy and grit in principal development programs via qualitative studies of principals in the Principal Pipeline. Another recommendation is to explore the proven practices for increasing principal self-efficacy and grit.

DEDICATION

"We'll pay for your education because that's the one thing we'll leave behind when we go and it's the one thing nobody can ever take away from you."

Mom & Dad

At a very young age, my parents taught me the value of an education. They taught me that education comes through life experiences and through formal studies. Growing up I would hear about the impact of an education on my life and how it had the capacity to shape my trajectory and change my perspectives. Today, I have come to appreciate that message I heard so many decades ago as a young child. For the person I am today views the world through a different lens and most importantly, values this notion that the journey is the destination. Pursuing a doctoral degree was not an easy feat. As I conclude my studies, I am leaving with so many lessons I learned along the way. The most important lesson is one that I spoke of during my defense and that is the impact of environment. In particular, I spoke of my family who supported me during the attainment of this final degree.

When I applied for the doctoral program at UTRGV, I was asked to submit my rationale for applying. In my rationale I spoke about how education made all the difference for my father. He broke out of a cycle of poverty and paved the way for me and my siblings to have a much better life. He was an inspiration for me because he took the road less traveled, and I was one of the benefactors of his decision to pursue a formal education.

All I am I owe to God for placing me in the most perfect of paths. His plan for me included a family that loves me and who made all of this possible. First, I want to thank my parents for instilling in me the value of hard work and the ability to see beyond any barriers that stood in my way. Secondly, I want to thank my siblings for being my first best friends. When things are not going as planned, my siblings come in and remind me that I have the ability to persevere and overcome. Thirdly, I would like to thank all of my mentors along the way for the role they played in shaping my professional trajectory. Without the encouragement of my mentors, I would have never found the courage to pursue the opportunities that came my way. I am forever grateful for each of you.

Lastly, I want to thank this wonderful trio made up of the two most beautiful girls I have ever seen and a wonderful man I married all those years ago. Together, my husband and my girls saw me through this and when I didn't think I could go any longer, they would remind me that Kortans are not quitters. To my husband, thank you for loving me unconditionally and for helping me to see myself through a lens of strength and beauty. To my girls, I hope you have learned the value of perseverance, hard work and dedication in accomplishing what you dream of. You are my daily inspiration to be the best version of myself.

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I want to extend a special acknowledgement to my entire dissertation committee for guiding me along the way. The committee's role in shaping and finalizing this study enriched the final version of the dissertation. From discussions regarding the literature review with Dr. Federico Guerra and Dr. Hilda Silva to the multiple meetings to review statistics with Dr. Javier Cavazos, each of the committee members represented a specialized role in the development of this study. A special thank you to Dr. Michelle Abrego for becoming part of this committee. Your guidance on the refinement of the dissertation strengthened the publication and deepened my learning.

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CHAPTER I

INTRODUCTION

"People's self-efficacy beliefs determine their level of motivation, as reflected in how much effort they will exert in an endeavor and how long they will persevere in the face of obstacles.

—Albert Bandura, "Human Agency in Social Cognitive Theory"

In the modern educational landscape, campus principals must examine their perceptions of their ability and capacity to persist through the challenges they face. Principals in today's educational system must also address the newfound demands of legislation, such as the Every Student Succeeds Act (ESSA) (Every Student Succeeds Act, 2015; Williams & Welsh, 2017). Principals face significant challenges; thus, a need exists to better understand the role of self-efficacy and grit in the persistence and development of principals (Levin & Bradley, 2019; Louis et al., 2010).

According to Louis et al. (2010), self-efficacy influences the choices leaders make during challenging scenarios and their persistence. Leaders' choices are manifestations of their beliefs in their abilities and the likelihood to persist in their roles. School leaders must possess high levels of self-efficacy and persistence to withstand the emotional and physical demands related to their jobs and the modern educational landscape (Levin & Bradley, 2019). Thus, this study had significance due to its focus on principals, as principals' behaviors impact those of teachers

and students. An efficacious and gritty principal shapes the beliefs of everyone on campus (Louis et al., 2010; Schimschal & Lomas, 2019).

The goal of this study was to provide a deeper insight into the principal role and the influence of self-efficacy and grit on persistence in the role. This study included an overview of the available research on these areas of focus. However, studies related to these constructs have often occurred independently. Little research, if any, has addressed the collective relationships of principals' self-efficacy, grit, and persistence as measured by years in the role. As such, this study focused on the relationship between self-efficacy, grit, and persistence. The findings could contribute to principal development and longevity in the role of the principal. Chapter II presents the need for this study based on the literature review.

Data collection entailed distributing surveys to principals from selected districts in the Principal Pipeline program (a pseudonym to protect program and district confidentiality). While the pseudonym The Principal Pipeline has been assigned for the purpose of this study, the concept of principal pipeline shaped the review of literature and the implications of the study on practices in educational leadership. Chapter 2 will provide a more in depth look at principal pipelines and the literature available regarding this topic. The survey included demographic questions, items from an inventory on principal self-efficacy (Tschannen-Moran & Gareis, 2004), and questions from the Short Grit Scale (Grit-S; Duckworth et al., 2007).

The role of the principal has evolved over the years. According to Alvoid and Black (2014), "The job of a modern-day principal has transformed into something that would be unrecognizable to [the] principals" (p. 2) of decades past due to the increasing challenges of the role. High efficacy and grit influence persistence in the principal role (Airola et al., 2014; Hoerr, 2017). The increasing pressures of the role indicate that principals must understand how to refine

their skills to persist in the role and lead their organizations (Bush & Glover, 2014). As such, the goal of this study was to examine self-efficacy and grit to understand principal development and the influential factors of principal persistence in Texas public schools.

Years later, research continues to support this notion and reiterates the evolution of the principal role. Bagwell (2020) stated, “School leaders are now being tested in ways that they have not been in the past” (p. 30). Furthermore, he also stated, “The coronavirus pandemic is rapidly redefining schooling and leadership” (Bagwell, 2020, p. 31). In his article, Bagwell (2020) addresses three actions today’s principals need to take; these actions included lead adaptively, build resilience and distribute leadership.

With leading adaptively, principals today must be agile and innovative enough to reimagine approaches to their leadership to create a collegial environment where principals collaborate and innovate. Secondly, Bagwell (2020) stated that principals today must create a synergy around connectedness in order to minimize uncertainty in today’s educational systems. Lastly, Bagwell (2020) stated principals must exercise distributive leadership as a mechanism to build a collective investment in innovation; with the distributive leadership comes more unity around problem solving and nurtures diverse thinking in which the voice of many will be heard. In the concluding remarks of his article, Bagwell (2020) spoke to the need for school leaders to exemplify persistence and suggested that leaders can do so by approaching the current educational and leadership challenges as opportunities of growth and the reinvention of school systems to become something greater than they were in years past.

Persistence has been a popular subject in the latest literature on principal self-efficacy and grit. Researchers from the National Association of Secondary School Principals (NASSP) and the Learning Policy Institute (LPI) studied 457 principals from across the United States who

completed surveys or participated in focus group discussions on principal persistence (Levin et al., 2020). The key findings relevant to self-efficacy, grit, and principal persistence were: (a) 42% of the principals contemplated leaving the profession; (b) of the 42%, more than half attributed their desire to exit the profession due to a lack of support in the role; and (c) almost all of the principals indicated a desire to engage in meaningful professional learning to prepare for the challenges of the role (Levin et al., 2020).

In regard to elementary principals, American Institute for Research (AIR) and the National Association of Elementary School Principals (NAESP) conducted a study with 188 elementary school principals in spring 2021; principals served school communities in 43 states around the United States (Clifford & Coggshall, 2021). When asked about the changes experienced in the principal role, one principal participant in the study stated, "All of the old tasks of leading schools remained, and so may new tasks were added during the scramble to meet the needs of students and families during a global pandemic, a painful reckoning with racial injustice, and a divisive election year" (Clifford & Coggshall, 2021, p. 1). That quote set the stage for the review of the findings of the study. Elementary principals in the study indicated that their focus shifted from areas, such as school improvement, curriculum and instruction to operations and management of schools, caring for the community, and ways of continuing family engagement during a period of separation and isolation. Instead of focusing on vision implementation, principals shifted to becoming more managerial because of the demands of the pandemic and multiple urgencies with school safety.

Key findings of the study outlined considerations for restructuring principal roles and systems of support for this role. The first consideration was for districts to restructure roles and responsibilities of principals to ensure a more distributive leadership model; this model would

lessen the load of the principal and bring a sense of collaboration to the operation of a campus. Secondly, the study findings suggested rethinking the responsibilities of principals to examine whether or not systems can be streamlined to shift certain responsibilities to central office personnel. These key findings coupled with the fact for the 2021 – 2022 school year approximately 42% of principals indicated their contemplation of leaving education established a need to continue studying principal persistence as measured by years in the role (Levin et al., 2020).

These findings indicate the need to study and support principal development to address the upcoming principal shortage.

The ability to lead is not a fixed trait. A lack of self-efficacy could impact the performance of leaders (Bandura, 1993). In addition, self-efficacy is a determining factor in persistence in the role of principal (Jacob et al., 2015). Bandura (1993) indicated that high self-efficacy enables people to persist through difficult situations and succeed. Studies on self-efficacy have shown the importance of understanding its impact on leaders' ability to persist through challenging situations (Airola et al., 2014).

Bandura identified self-efficacy as the perception of one's ability to carry out the actions related to assigned tasks (Versland, 2013). Bandura believed that self-efficacy influenced task completion. Specific to public school principals, efficacy is principals' belief in their abilities to lead their campuses. Understanding principal self-efficacy could show district-level administrators their impact on principals to improve principal development and persistence in the role.

Grit is another topic related to principal persistence in the literature. According to Duckworth et al. (2007), grit is "perseverance and passion for long-term goals. Grit entails

working strenuously towards challenges, maintaining effort and interest over the years despite failures, adversity, and plateaus of progress" (pp. 1007–1008). Grit enables individuals to persist through challenges and remain focused on goals. Individuals with high levels of grit persist through situations and overcome challenges (Flaming & Granato, 2017). In addition, gritty individuals remain focused on and stay true to long-term goals despite a lack of immediate reinforcement or feedback on their progress (Duckworth et al., 2007). The drive of grit is an interior force rather than an external desire for recognition or positive reinforcement from extrinsic sources. Thus, grit enables individuals to persist along lengthy journeys of mini-milestones as they get closer to achieving their long-term goals.

Scholars have referred to grit in terms of the goals set by runners. For example, grit is a marathon approach to measuring achievement rather than a sprint approach. Runners complete a marathon one step at a time, whereas sprints are measures of speed alone (Duckworth et al., 2007). Therefore, gritty people realize that achieving a goal takes time and involves incremental movements toward the finish line.

Grit could also indicate the degree to which individuals facing adversity succeed and recover from failures (Duckworth & Quinn, 2009). The implications of grit are apparent in applications across disciplines and professions. The concept of grit originated from a partnership between Duckworth and the leaders of the Knowledge is Power Program (KIPP) charter school system (Tough, 2011). KIPP leaders reviewed the statistics of the postsecondary success of their alumni. They found a gap between the goal of 75% of their alumni graduating from a 4-year higher education institution and the reality of only 33% of alumni completing their 4-year degrees.

The statistical gap between the goal and reality caused the charter school leaders to rethink their strategy with students. As such, they looked beyond quantitative measures of student success, comparing the characteristics of the alumni who completed their 4-year postsecondary degrees and those who did not (Duckworth, 2016). The KIPP leaders enlisted Duckworth (2016) to study the most influential factors of postsecondary degree completion among their alumni. The study showed that the highly successful alumni who completed postsecondary degrees had two common characteristics: a passion for their fields of study and an unwavering conviction to achieve goals regardless of the barriers and timeframes (Tough, 2011).

Grit was a factor initially studied in the field of education in the KIPP charter school system; however, scholars have transferred Duckworth's (2016) concept to a multitude of disciplines and professions. For example, Samora et al. (2018) found grit one of the most influential noncognitive factors of success in orthopedic surgeons. Samora et al. (2018) noted grit's influence beyond the implications of cognitive factors, such as intelligence and standardized test scores. Further, they found that grit scores had an inverse relationship with the orthopedic surgeons' board certification exam scores, showing that grit was a valuable determinant of success in the profession.

As indicated in Chapter II, researchers have studied grit for other groups, such as cadets at the United States Military Academy at West Point (Duckworth, 2016). The study at West Point occurred to discern why an annual pool of cadet applicants of approximately 14,000 resulted in a graduating class of only about 1,000 cadets. In an unprecedented study, Duckworth (2016) studied the determinants of success for West Point cadets and what enabled them to stay committed during an intense 7 weeks of training known as Beast Barracks. Duckworth found that successful cadets "were unusually resilient and hardworking" and "knew in a very, very

deep way what they wanted" (p. 8). Duckworth's study inspired others to continue studying grit. Chapter II contains additional examples of the transferability of the concept of grit.

Scholars have portrayed self-efficacy and grit as overlapping constructs in recent studies. Usher et al. (2019) studied self-efficacy and grit related to academic success. Usher et al. (2019) linked the constructs of self-efficacy and grit to 2,430 students in Grades 4 through 8 in U.S. schools. The scholars focused on the relationship between teacher motivation and their students' achievement scores in mathematics and reading. The goal was to determine whether grit or self-efficacy alone were predictors of overall academic success.

Usher et al. (2019) concluded that grit could be a factor in student persistence and academic success; however, grit was not the only factor. Students must also acquire a belief in their abilities for encouragement to persist through their struggles. Usher et al. (2019) framed the relationship between self-efficacy and grit by stating, "Self-efficacy, informed by past successes, leads to more perseverant effort (i.e., and higher perceived grit), which, in turn, brings about successful performances that support one's self-efficacy and perhaps, in turn, one's grittiness" (p. 880).

Similarly, Bandura (2008) indicated that self-efficacy influences one's ability to persist through challenging situations. Those with higher self-efficacy stay true to goals despite challenges and achieve greater success due to their persistence. Duckworth and Quinn (2009) defined grit as "trait level perseverance and passion for long-term goals" (p. 166). Duckworth and Quinn indicated that grit is the driving force behind completing challenging tasks, with both self-efficacy and grit determining persistence factors. Thus, this study, A Study of Self-Efficacy, Grit, Persistence and Professional Development of Select Texas Public School Principals in a Principal Pipeline Program, was an examination of the implications of both constructs to

determine if a relationship exists between self-efficacy and grit in principals and the constructs' influence on persistence in the principal role.

Statement of the Problem

Some research has focused on principal self-efficacy, grit, and persistence in the role; however, a gap exists in the literature on the relationship between these study constructs. Therefore, this study contributed to the body of knowledge on the relationship between these constructs and their influence on persistence in the principal role. In this study, persistence was a factor measured by the number of years in the role.

Educational leaders could use the results of this study to provide more effective support systems and professional development for principals. Studies on self-efficacy and grit have tended to focus on the two constructs separately. Thus, this study had a unique focus on the relationship between the two concepts and persistence. According to NASSP (2021), the forecast for principal shortage appears grim due to the latest demands on principals based on the COVID-19 pandemic. Principals have had to withstand immense stress for prolonged periods. Consequently, educational system leaders must know how to best support and develop principals to avoid school leader shortages. Additionally, the researchers from AIR & the NAESP stated, "the elementary principalship may require some reconfiguration and specialization to be more manageable" (Clifford and Coggshall, 2021, p. 16).

The latest statistical data on principal persistence has indicated the need to understand the constructs of self-efficacy, grit, and persistence and the influence of the challenges of the principal role on persistence (Myung et al., 2011; Superville, 2019). Approximately 10% of principals leave K–12 public school systems after 1 year, 20% leave after 3 years, and 27% leave after 5 years (Superville, 2019). Thus, approximately one-quarter of principals do not persist in

the role beyond their fifth year. According to Superville (2019), understanding the short tenure of principals requires understanding if self-efficacy and grit relate to principal persistence and development. Furthermore, a more intentional focus on the level of efficacy and belief in one's capacity to succeed in the role of principal early in a principal's career could affect principal tenure (Bauer & Silver, 2018).

According to Federici and Skaalvik (2012), principals with higher self-efficacy have greater engagement in their role and decreased likelihood of leaving the position. Furthermore, principals with low efficacy may not master the instructional responsibilities related to their role. According to Skaalvik (2020), principals with low efficacy may have "low mastery experiences (p. 492)" and struggle to feel comfortable in the role. Thus, principals with low self-efficacy may also have a greater likelihood of departing from the role.

Farley-Ripple et al. (2012) found principal persistence related to principals' efficacy and their perspectives of overcoming challenges. High levels of efficacy and perceiving challenges as opportunities for growth correlated with greater persistence in the principal role. Principals with high self-efficacy embraced their position and viewed themselves as continual learners. According to Senge (1990), continual learners develop a deep appreciation of the process of learning, understanding they can develop skills along the way. In summary, principals who ascertain the value of the learning process in their role are better equipped to succeed in times of adversity and rise above the fray to appreciate the personal development of new learning.

Bandura (2008) stated that development and the refinement of skills over long periods influence self-efficacy. With persistence measured as years in the role of principal, principals who persist in their role can refine their skills and build confidence in their abilities due to ongoing opportunities for mastery. Duckworth (2016) indicated that gritty individuals persist

through adversity and have a long-term commitment to goals, and thus an increased likelihood of persisting in the challenges of new learning and finding success and satisfaction in endeavors. The findings of Bandura and Duckworth suggest that principal persistence, as measured by years in the role, could contribute to higher efficacy due to the increased likelihood of mastery experiences. Consequently, a low level of grit may keep a principal from persisting in the role and prevent the principal from achieving higher self-efficacy due to a lack of opportunities to experience mastery learning (Farley-Ripple et al., 2012; Skaalvik, 2020).

Campus principals must have personal awareness regarding their level of self-efficacy. Research indicates that principals with high efficacy are more likely to meet the demands of the diverse responsibilities of their role (DeWitt, 2017). Additionally, principals must demonstrate grit or perseverance in their leadership roles. Schimschal and Lomas (2019) found that the grittiest leaders sustain a long-term commitment to goals and are more likely to influence their organizations positively. Thus, understanding the influence of self-efficacy and grit on persistence in the role could be a way to combat principal attrition and improve principal development.

Bandura's Theory: A Theoretical Basis

According to Leithwood and Jantzi (2008), "Most leader efficacy studies have been substantially influenced by Bandura's sociopsychological theory of self-efficacy" (p. 501). Bandura's (1997) sociopsychological theory of self-efficacy focuses on the dependent relationships between behavior, internal personal factors, and external environment. The three factors of behavior, internal personal factors, and external environment influence function in daily life and produce the systems in which people operate. Bandura stated,

> "People make causal contributions to their own functioning through mechanisms of personal agency. Among the mechanisms of agency, none is more central or pervasive than people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (p. 118).

Thus, self-efficacy consists of individuals' perceptions of their abilities and is not a concept related to self-esteem. According to Fisher (2014), self-efficacy is a situational factor based on the task at hand, whereas self-esteem is a general judgment of one's worth. In addition, self-efficacy has an effect on behavior. Individuals with high efficacy can envision themselves having success and high yield performance (Bandura, 1993). Self-efficacy could also affect the ability to persist when faced with challenging and trying tasks; people who triumph during or after adversity may have better self-efficacy and coping skills (Leithwood & Jantzi, 2008).

Bandura (1986) described self-efficacy as individuals' perceptions of their capabilities to complete activities. According to Bandura, individuals with low self-efficacy often struggle to succeed due to their inability to see beyond perceived failures. Campus principals' perceptions of their abilities could indicate their efficacy and what they believe they can accomplish in the role, even without evaluating a specific skillset.

Bandura (1993) examined the influence of self-efficacy on goal attainment using two experimental groups. Bandura told the members of Group 1 that inherent intellectual ability indicated goal attainment and told Group 2 that the ability to acquire skills along the way indicated goal attainment. The results showed that efficacy was a determining factor of success. The participants who believed in their ability to overcome adversity with the fluid acquisition of skills persisted through conflict and developed a greater belief in their ability to attain their goals.

In addition, those able to overcome adversity during the most challenging part of task completion had greater resilience and consistently high efficacy (Bandura, 1993).

Bandura's (2012) indicated four sources of building leadership self-efficacy; included in this list was the completing of tasks. Thus, the principals with greater self-efficacy may have more openness to expanding their capacity beyond minimal expectations to make decisions to meet teachers' needs (Goff et al., 2013). Principals contribute to the overall culture and environment in which teachers work; their self-efficacy could influence the self-efficacy of everyone on the campus (Cansoy & Parlar, 2018).

Jacob et al. (2015) studied the impact of the McREL Balanced Leadership Professional Development Program (BLPD) with Bandura's social cognitive theory and the four sources of efficacy. The principals in the treatment group received professional development in the BLPD that aligned with Bandura's four sources of efficacy. The findings showed that the principals who engaged in BLPD reported feeling more efficacious. The treatment group members attributed their higher efficacy to the mastery experiences and organizational support received from the BLPD. Moreover, the study found a 16% decrease in principal turnover among the principals who engaged in the BLPD. Thus, Jacob et al. (2015) concluded that principals who engaged in the BLPD developed higher self-efficacy and were more likely to persist in the challenges of their role.

Also focusing on principal development, Versland (2013) found that the influence of a principal's self-efficacy on campus "can be either positive and empower people to action, or negative, and cause people [to] doubt, resulting in inaction" (p. 2). Furthermore, Versland indicated that when principals "conquer feelings of inadequacy, their beliefs about becoming successful school leaders increase" (p. 2). Similarly, Schaufeli and Salanove (2007) noted that

principals who felt more adept were more apt to persist through challenging times, thus minimizing burnout.

Statement of Purpose

The principal role has evolved throughout the decades and now has more demands than ever (Airola et al., 2014). As such, the purpose of this study was to examine if a relationship existed between self-efficacy and grit in selected principals; the differences in self-efficacy and grit among the principals who did and did not participate in a principal development program; and the differences in self-efficacy, grit, and persistence in the job role among selected principals with various years of experience. The study's findings could contribute to school systems practices, providing relevant information on addressing principal development and designing support systems for principals.

The results of this study provided insight into the areas of priority for principal development. In particular, the results focused on whether to include development in self-efficacy and grit in district plans for principal development. The study could also contribute to the design of the onboarding of new principals by further defining how self-efficacy and grit may influence principal persistence as measured by years of experience in the role of principal.

Research Questions

The study had three guiding research questions:

1. What, if any, relationship exists between principal self-efficacy and grit in selected principals?

    H_0: No significant relationship exists between the self-efficacy and grit of selected principals.

2. What differences, if any, in self-efficacy and grit exist among principals who participate in a principal development program and those who do not?

   H_0: No significant relationship exists between the self-efficacy and grit among principals who participate in a principal development program and those who do not.

3. What, if any, differences in self-efficacy, grit, and persistence in the principalship exist among selected principals with varying years of experience?

   H_0: No significant relationship exists between self-efficacy, grit, and persistence in the principalship among principals with varying years of experience.

Brief Overview of Methodology

In this quantitative study, a correlational research design was the means used to analyze Research Question 1. A multivariate analysis of variance (MANOVA) commenced analyzing the data related to Research Questions 2 and 3 (Mills & Gay, 2016). The MANOVA is an analysis of the independent variable of self-efficacy and its relation to grit and persistence. The sample size the criteria of an effective MANOVA and had transferability to a larger population of principals beyond those who participated in the study (Reinhart, 2017).

The participants were 360 principals from 12 public school districts in Texas. The participating districts were part of a leadership development program with the pseudonym of the Principal Pipeline. All 12 districts were public school systems in Texas that provided services to various student populations. Chapter III provides in-depth descriptions of each district.

The study included principals from 12 districts identified as Cohorts 1 and 2 of the districts in The Principal Pipeline. The selection of the cohort districts for the Principal Pipeline occurred independently of this study. District selection was based on their designation as Cohorts

1 and 2 districts in the Principal Pipeline. The selection of cohort districts for the Principal Pipeline did not occur in affiliation with this study but after a rigorous application process with multiple steps. The first step was submitting an electronic application with designated formatting guidelines and responses to specific questions. The second step was face-to-face interviews with district-level leaders to assess the leadership team's collective strengths and leadership potential. Chapter III contains a comprehensive review of the selection process for the Principal Pipeline and detailed participant descriptions.

The Principal Pipeline program has a systemic method for preparing principals for the emotional and managerial demands of the role. The model is a means of building self-efficacy to increase persistence in the principal role as measured by years of experience in the role. Healthy self-efficacy early in the principalship could correlate with the increased likelihood of success in the role (Fisher, 2010). Consequently, the Principal Pipeline offers specific opportunities to engage in a two-year professional development program during which principals learn skills that may contribute to an overall increase in their ability to persist in the role of principals and extend their tenure. position themselves for build self-efficacy and grit for increased persistence in the principal role.

Submission of the required documents to request to conduct the study in each district occurred before data collection and contact with the principals. The study commenced after receiving approval to conduct the study from the Institutional Review Board (IRB) at the University of Texas Rio Grande Valley (UTRGV). The designees from each participating district provided the names and email addresses of the principals. Afterward, each principal received an email about the purpose of the study and a link to the Principal Efficacy and Grit Survey (PEGS). The PEGS included demographic questions and questions from the Principal Sense of Efficacy

Scale (Tschannen-Moran & Gareis, 2004) and the Grit-S (Duckworth & Quinn, 2009). Created in 2004, the Principal Sense of Efficacy Scale is a measure of principal efficacy in the areas of instructional leadership, campus management, and ethical leadership. Scholars have used the scale in multiple studies to measure principal self-efficacy. The Grit-S measures with a series of items focused on consistency of interest and perseverance of effort.

The Principal Efficacy and Grit Survey (PEGS) contained three subsections. The goal of the first subsection of the survey was demographic data, such as district, gender, age range, school level, years as an educator, years in campus administration, and years as campus principal. The second subsection included the Principal Sense of Efficacy Scale questions (Tschannen-Moran & Gareis, 2004). The scale consisted of 18 questions based on Bandura's work aligned with principal efficacy. For each question, the principals rated themselves on a Likert scale that ranged from *none at all* to *a great deal*. The questions in the tool were the means used to measure principals' perceptions of their abilities as principals. All the questions contained a uniform question stem of, "In your current role as principal, to what extent can you…" (Tschannen-Moran & Gareis, 2004). The second part of the questions targeted data indicative of efficacy level in instructional leadership, campus management, and ethical leadership.

The third subcategory of the PEGS addressed grit with the Grit-S (Duckworth & Quinn, 2009), which has eight questions with Likert scale responses. Scholars have found the tool valid and reliable across multiple disciplines. The principals responded to the eight questions of the Grit-S in the PEGS by rating themselves on a scale from *very much like me* to *not like me at all*. Additionally, the question wording was such to elicit data indicative of the participants' perceptions of their passion and persistence. Example questions are "I finish whatever I begin"

and “I often set a goal but later choose to pursue a different one.” (Chapter III contains a more detailed explanation of the survey.) Scoring the results from both surveys occurred based on the tool’s scoring scale, with the scores synthesized to produce the results and findings of the study.

According to Mills and Gay (2016), “Survey research involves collecting data to test [a] hypothesis or to answer questions about people’s opinions on some problem or issue” (p. 191). In this study, the surveys were the means used to collect data on principal efficacy and grit. In alignment with Mills and Gay, the survey administered was a uniform means of collecting data for all the population. All the principals in the study received the same survey to produce credible quantifiable results. The survey administration occurred electronically. All the principals who fit the description of the desired sample received emails with a link to the survey, which they could complete after giving consent to participate.

Scholars have found the Principal Sense of Efficacy Survey (Tschannen-Moran & Gareis, 2004) and the Grit-S (Duckworth & Quinn, 2009) valid and reliable. Chapter III presents the reliability and validity of these tools. The participants submitted their survey responses anonymously to avoid divulging their identifying information. The 12 districts contained approximately 360 principals, all of whom received electronic invitations to participate by completing an electronic version of the PEGS.

Definition of Terms

Grit. The “trait level perseverance and passion for long-term goals” (Duckworth *&* Quinn, 2009, p. 166).

Leadership. The act of persuading a “group to pursue objectives held by the leader or shared by the leader and his or her followers” (Gardner, 2013, p. 17).

Leadership grit. "Your capacity to get your team, or followers in general, to dig deep and do whatever it takes—even sacrifice, struggle, and suffer—to achieve their most worthy goals in the best ways" (Stoltz, 2015, p. 50).

Principal persistence. Principals' "intention to remain in their job" (Bauer & Silver, 2018, p. 316).

Principal self-efficacy. "A principal's perceived judgment of his/her ability to affect change" (Tschannen-Moran & Gareis, 2017, p. 358) and "a type of leadership self-efficacy, involving a certain level of confidence in one's knowledge, skills, and abilities, which are associated with the task of leading others" (Fisher, 2014, p.2) .

Self-efficacy. The perception of one's abilities (Bandura, 1977).

Principal Pipeline. As noted by Kaufmann, Gates, Harvey, Yang, and Barrett (2017, p. 32), "Principal pipeline activities are those activities undertaken by a district to prepare, support, manage, and oversee the work of school leaders in order to ensure their effectiveness. Principal pipeline activities include activities that are referred to as principal talent management or human capital management" (George W. Bush Institute, 2016)."

Delimitations

This study was the means to collect information from principals in Texas public school districts who were part of the Principal Pipeline. The Principal Pipeline is a leadership development program (see Chapters II and III for program details). This study focused on Texas; therefore, the results might not be applicable to principals outside the state. In addition, the study included responses from the principals who opted to participate in the study. At study time, the Principal Pipeline was in its third year and did not yet have rich longitudinal data.

Limitations

A limitation of this study is that the sample included the principals who chose to participate. Although 360 principals received invitations, only some chose to participate. The sample principals submitted their survey responses based on their personal interpretive lenses.

Each participant received definitions of the terms and survey directions; however, the respondents had their own interpretations of the questions. Lastly, the scales used in the survey were open to interpretation, as the survey did not include a rubric for the responses. Therefore, when completing the survey items, respondents may have been influenced by their personal experiences and own understanding of the terms when providing their responses.

Assumptions

An assumption of this study was that the participating principals understood self-efficacy and grit. Another assumption was that the participants provided honest responses to survey questions. In addition, an assumption was that participants had accurate perceptions of what the survey items were asking.

Significance of the Study

Education is a powerful tool for global achievement. Throughout evolution of the role, the principalship has become less about management and more about instructional leadership; consequently, "formal educational leadership preparation programs became a necessity" (Pannell, McBrayer, Dickens, Skelton and Fallon, 2022, p. 30). According to Versland (2016), "Lacking self-efficacy about the principalship, school leaders will have a difficult time providing the continuous affirmation and support necessary to build instructional capacity and innovate and promote higher levels of student achievement" (p. 299). Thus, this study had significance for the field of education because it focused on the impact of self-efficacy and grit in principal

persistence and development. According to Bandura (1993), the inability of people to perform well may result from a lack of self-efficacy. Individuals who do not believe in their ability to achieve goals might have the skills needed to complete their tasks but not succeed because of their inability to apply knowledge.

The latest statistics and studies on principal persistence have shown the impact of the COVID-19 pandemic on principals. Therefore, school system leaders around the country must rethink their development and support for principals. Reyes-Guerra et al. (2021) sought to understand the impact of the pandemic on the principal role. Reyes-Guerra et al.(2021) indicated the need to reimagine support systems for principals to nurture school district leaders and provide principal development aligned with their newfound emotional and programmatic needs. Thus, the constructs of self-efficacy and grit could provide insight into how to guide principals along their leadership journeys and the support they need during their tenure.

Recent statistics regarding principal retention show an upward trend of shorter principal tenure, which is a concerning education finding (Levin & Bradley, 2019). Stressing the urgency of addressing principal persistence, Levin and Bradley (2019) also noted that 35% of principals remained at their campuses for less than 2 years. Bartanen et al. (2019) noted an 18% principal attrition rate. A lack of persistence results in an estimated financial burden of $75,000 to replace a principal. Principals' persistence in their role and remaining at the same campuses could enable them to make longer-lasting changes to positively impact student achievement (Boyce & Bowers, 2016). Therefore, a need exists to understand principal self-efficacy and its relationship with grit. Such awareness could be a means of informing practices for supporting principals' persistence and helping them overcome career obstacles.

This study contributed to the knowledge on principal self-efficacy, grit, and principal development and how they relate to principal persistence. The goal was to determine if a relationship existed between the self-efficacy and grit of selected principals; the differences in self-efficacy and grit among the principals who did and did not participate in a principal development program; and the differences in the self-efficacy, grit, and persistence among principals with various years of experience.

This study focused on self-efficacy and grit because principals with high self-efficacy persist in the role longer (Louis et al., 2010). According to Louis et al. (2010), "People who persist at subjectively threatening activities that are not actually threatening gain corrective experience that further enhance their sense of efficacy" (p. 128). Thus, principals who persist in the role may engage in experiences that enable them to believe in their abilities.

The survey included demographic questions on gender, level of school served, years of experience, and participation in a principal development program. The demographic questions contributed to a richer analysis of data. The MANOVA was the statistic used to uncover the interactions between demographic data and the study constructs (Reinhart, 2017).

Public school administrators could use this study to understand how self-efficacy and grit relate to the principal role and principal development in public school districts in Texas. Furthermore, the study provided insight into the position of campus principal and how to design support systems and professional development. Understanding the relationship between self-efficacy, grit, and persistence in principals could contribute to public education and practices for increasing principal persistence. In addition, the study contributed to the knowledge base of effective practices for developing systems for the individualized development of principals. The

role of the principal was an attractive topic for this study because “strong and stable school leadership is critical for success in schools across the nation” (Levin et al., 2020, p. 3).

Summary

This chapter presented the constructs of self-efficacy and grit and how they relate to the role of the principal. The chapter also included the study’s theoretical framework of Bandura’s social cognitive theory and Duckworth’s research on grit. There were discussions of the study’s problem, significance, methodology, and research questions. Chapter II includes the literature on how social cognitive theory and grit relate to the role of principal and statistics on the importance of the two constructs. Moreover, Chapter II presents a review of the literature and more in-depth information on the Principal Pipeline.

CHAPTER II

LITERATURE REVIEW

Introduction

This literature review provides an overview of the latest studies on principal self-efficacy and grit related to the principal role. The theoretical framework of Bandura's psychological theory of self-efficacy was the lens used to examine self-efficacy and its relationship with grit and persistence in the role of principal. Scholars have studied the constructs of self-efficacy and grit independently; however, few have examined the constructs together. Furthermore, a gap exists in the literature on how these constructs relate to principal persistence. Consequently, this chapter includes a review of the literature relevant to self-efficacy, grit, and principal persistence for inclusion in one study.

The topic of study originated from the gap in the literature and the grim outlook of principal shortages (NASSP, 2020) due to the evolution of the role and the COVID-19 pandemic (Guerra et al., 2021; Reinhart, 2017). School system leaders could use the results of this study to understand the influence of self-efficacy and grit on persistence in the principal role. The findings could provide insight into how to best implement programs for principal development.

The problem identification phase of this study consisted of searches for terms and phrases, such as *trends in principal turnover, influencing factors of principal turnover, factors of principal persistence,* and *principal longevity*. These keywords produced the resources for this

study. The information gathered from the searches showed an evident problem, as explained and described in later sections of this chapter.

After defining the problem with a review of statistical data, the next phase was finding the most current research on self-efficacy. The literature review commenced by exploring the theoretical framework of Bandura's psychological theory of self-efficacy, with keyword searches producing an immense amount of research. More focused search terms were useful to narrow the literature used for this chapter. Searches commenced for precise theoretical terms. More focused search terms allowed for a more narrow, applicable return of resources.

The refinement of the searches provided access to the literature related to the concepts of Bandura's theory and self-efficacy. Some examples of the terms used for these searches were *Bandura's psychological theory of self-efficacy, self-efficacy AND principals, influencing factors of principal self-efficacy*, and *what contributes to principal self-efficacy*. This review of literature indicated grit as a topic related to self-efficacy. The next phase was a deeper dive into the research related to grit.

After presenting a foundational understanding of Bandura's psychological theory of self-efficacy, the literature showed that self-efficacy had an overlapping influence with grit. Thus, a search commenced for relevant studies and articles on grit, including Duckworth et al.'s (2007) concept of grit. Research terms, such as *definition of grit, how is grit measured, influencing factors of grit*, and *where did the term grit originate*, were useful to find related research. Additionally, the review showed a gap in the literature on grit and its influence or relation to principal persistence. Most importantly, while some overlap existed in the grit and self-efficacy research, limited studies focused on the relationship and interdependencies between self-efficacy and grit.

The previous section provided an overview of identifying the study's constructs and the search terms used to select those constructs. The following section provides a detailed overview of the literature review with the themes of (a) historical perspective of leadership, (b) persistence in the principalship, (c) Bandura's sociopsychological theory of self-efficacy, (d) Bandura's triadic reciprocal of causation, (e) Bandura's sources of self-efficacy, (f) principal efficacy, (g) grit, and (h) principal development. The review also focuses on principal development programs, specifically the Principal Pipeline, a main criterion for selecting the principals for this study. Each subsection provides an in-depth look into the elements of the study.

Review of Literature

Educator preparedness has been a concern of legislators for decades. The campus principal is crucial to the success of public schools in the United States (Louis et al., 2010). The requirements for today's principals and the role's governing systems are the direct results of legislative giants from generations past who established the major education policy of the modern educational system. In 1947, Governor Beauford Jester began streamlining the roles in Texas public schools in response to the inequality of the public school system. Jester charged state legislators to analyze public school operations and resolve inequalities in the system (Morowski, 2009). That charge resulted in the cardinal components of the modern public school system. The following segment provides an overview of the evolution of the principal role.

The role of teacher-leader emerged in the late 1800s to implement campus-level policies and oversee order (Rousmaniere, 2013). Teacher-leaders could remain in the classroom while taking accountability for daily operations. According to Cuban (1988), those in teacher-leader or master roles were teachers on a higher pay scale responsible for ensuring an operational school. A local governing body appointed teacher-leaders. The role of teacher-leader changed into the

principal-teacher role later in the century. At this point in the evolution of school systems, increased student enrollment resulted in the need for multiple rooms for instruction, and principal-teachers received a heightened level of responsibility (Rousmaniere, 2007).

In the 19th century, the role of school leaders underwent what Rousmaniere (2013) referred to as the professionalization process. The principal emerged as a supervisor, and a division occurred between the principal and teacher-leader role. The role of principal also began to progress in Texas as Governor Jester assembled the Gilmer-Aikin Committee in 1947 (Morowski, 2009). Headed by State Representative Claude Gilmer and Senator A. M. Aikin, Jr., the 18-person committee studied every aspect of the school system to ensure justice throughout the state and overcome inequality.

In reviewing the state education system, the committee amassed information on curriculum, educator credentials, and resources. The members conducted a 2-year analysis and provided 30 recommendations to Jester classified under four subgroups of standards: "a minimum foundation program of education, a revision of educational financing including the consolidation of school districts, a reorganization of state school control, and improved preparation of the state's teachers and administrators" (Morowski, 2009, p. 329).

The Gilmer-Aikin Committee presented educator preparedness as an area of concern in the Texas educational system. One alarming statistic was that less than 3% of teachers had the proper certification in the 1946–1947 school year (Morowski, 2009); as a result, the committee suggested bills requiring a minimum level of education for roles, including the principal. Per the committee's recommendations, lawmakers passed Senate Bills 115, 116, and 117. Senate Bill 116 presented the first salary schedule for teachers and administrators (Kuehlem, 2004). This

subsection provided a brief overview of the Gilmer-Aikin Committee as background knowledge relevant to the evolution of the role of principal.

The work of the Gilmer-Aikin Committee was the structural basis of modern public school systems. Since then, the principal role evolved from manager to instructional leader (Halinger, 1992). Until the 1960s, principals addressed issues and managed school operations. In the 1970s, the focus began to shift from managerial to instructional due to federally funded programs for special education, compensatory education, and bilingual education and a focus on higher accountability for student performance. Thus, due to curriculum planning and professional development in the world of education, "Principals came to be viewed as potential change agents" (Halinger, 1992, p. 2) and vehicles for large-scale societal changes.

In the 1980s, yet another shift in the principal role occurred as principals moved into the role of instructional leader. During this time, principals had to lead their teachers through educational transformation by creating collaborative cultures and building teacher-leaders (Halinger, 1992). Whereas the 1980s resulted in the concept of instructional leadership, the 1990s resulted in site-based decision-making. In the 1990s, principals became authority figures responsible for meeting the needs of their campuses. Principals had to be collaborative instructional leaders of a collegiate culture who connected with all layers of the school community. Thus, principals became the faces of their campuses and figures of transformation (Halinger, 1992; Honig & Rainey, 2012).

The 2000s resulted in a refined focus on the teaching and learning of principals (Honig & Rainey, 2012). In this century, scholars presented the impact of principal leadership on students' learning outcomes. Principals across the country began focusing on delivering instruction in classrooms (Arlestig et al., 2001; Wahlstrom et al., 2010). In a study of 66 eighth-graders who

had historically underperformed on standardized tests, Silva et al. (2011) found significantly increased scores among students who had academic planning conferences with their principals before retaking their assessments. Thus, the involvement of principals in students' educational trajectories was a common theme of the research in the 2000s.

School systems remain under the influence of the work of the Gilmer-Aikin Committee (Kuehlem, 2004). The Gilmer-Aikin Law of 1949 resulted in several structural changes to education in Texas that impacted the principal role, including (a) the change of the State Department of Education into the Texas Education Agency; (b) the organization of the State Board of for Educator Certification (SBEC), the goal of which was to ensure quality educators for all students, regardless of where they received an education; and (c) the replacement of the Texas superintendent role with the SBEC-appointed position of the State Commissioner of Education (Erekson, 2010).

In the modern public school system, these agencies and the commissioner continue to provide the parameters for roles in the state's education system, including the role of principals. Texas Education Agency (2016), Chapter 149, Subchapter BB of the Commissioner's Rules, presents principal standards for Texas, as follows:

1. Instructional leadership
2. Human capital
3. Executive leadership
4. School culture
5. Strategic operations.

The goal of the standards was to streamline the expectations of the principal role and ensure quality leaders in public schools when "the need and demand for first-rate schools was obvious"

(Kuehlem, 2004, p. 60). Their work continues to be the foundation for the role of principals in Texas. The principalship is a demanding role that requires a balance between being a manager and instructional leader; furthermore, today's principals must have comprehensive understanding of instructional practices to be able to provide guidance to teachers and to fully comprehend the impact of instruction on campuses (Grissom, Egalite and Lindsay, 2021). In the current educational landscape, the principal role has become multifaceted.

Turnover and departure rates continue to plague the principalship. Alvoid and Black (2014) found that 20% of principals leave their roles during the first 2 years, a percentage that has remained consistent. Bartanen et al. (2019) reported an 18% principal turnover rate in the United States. Collectively, these statistics indicate that the role's demands can weigh heavily on principals, thus showing the need to understand the factors influencing principal persistence.

One persistence factor is principals' beliefs in their ability to lead, known as self-efficacy. Increased principal self-efficacy could address the issue of low principal persistence (Levin & Bradley, 2019). Efficacy is an integral component of a principal's ability to persist in the role, which presents continuous challenges to efficacy (Airola et al., 2014). The impact of low self-efficacy in principals extends beyond their offices to schools' overall operations. In addition, a principal's departure affects several aspects of the campus, including culture, teacher turnover, and student achievement.

Changes over the last 2 decades have led to a different role of principal leadership. According to the Policy and Advocacy Center within the NASSP (2017), in 2020, the need for principals increased by 6% because of the growth in the country's population. At the same time, approximately one-half of U.S. principals retain their roles for less than 3 years. Furthermore, there is a shortage of qualified applicants for principalship vacancies across the country.

Therefore, examining the relationship between self-efficacy, grit, and persistence in the principal role could be a way to address the trend of short principal tenure and principal shortage and inform principal development.

According to Cansoy and Parlar (2018), administrators have moved from focusing on "technical and humanistic aspects of educational organizations in the 1950s" (p. 551) to becoming instructional leaders. In addition, principals must serve in a greater capacity as instructional leaders to increase the effectiveness of classroom instruction (Fisher, 2014). Today's campus principals fulfill many responsibilities, such as clarifying school visions and missions, managing resources responsibly, acting as instructional leaders, and connecting with the school community (Cansoy & Parlar, 2018). These responsibilities are a struggle for principals, especially with their many other responsibilities. Airola et al. (2014) emphasized the transformation of the role of campus principal over the last few decades, stating that principals must have high self-efficacy to withstand the challenges of their tenure.

One study on principal persistence included 1,100 Texas principals who served in the role between 2008 and 2011 (Superville, 2019). The findings indicated that 30% of principals did not remain at their assigned campuses after their first year, and 10% left the profession altogether. Additional studies have shown the average tenure for current principals to be approximately 4 years (Levin & Bradley, 2019). Moreover, the highest turnover rates are typically experienced at schools in which the majority of students come from low socio-economic families, where students of color are more prominent and where achievement is lower than that of other campuses in their districts (Levin & Bradley, 2019). While principal turnover was not a construct in this study, it is needed to understand the lack of the influencing factors of persistence in the role of principal.

Research on principal persistence has indicated the importance of studying self-efficacy and grit. First, effective principals must serve between 5 and 7 years at their campuses to achieve sustained transformation (Mascall & Leithwood, 2010). Louis et al. (2010) also noted the importance of decreasing principal turnover because changes to student achievement would take longer than the first or second year of being assigned to a campus. Moreover, according to the School Leaders Network (as cited in Boyce & Bowers, 2016), onboarding a new principal has a financial burden of approximately $75,000 in any given district. Thus, a need exists to research how self-efficacy and grit relate to persistence in the principal role. Such research could be a way to inform principal professional development and support in public schools in Texas.

Skaalvik (2020) studied 340 principals from Norway to examine principal efficacy in instructional leadership. The researcher used the Norwegian Self-Efficacy for Instructional Leadership Scale to measure several study constructs, including motivation to leave the principal position. The study provided insight into the influential factors of persistence in the role of principal and included some key findings. First of all, principals with a higher level of self-efficacy found it easier to set more rigorous goals that would challenge their leadership abilities, whereas those with lower levels of self-efficacy focused on their areas of needed growth so mush so that instruction became less of a priority. Likewise, focusing on areas of needed growth inhibited principals from feeling comfortable in their leadership capabilities and typically resulted in principals experiencing a higher level of emotional exhaustion that led to an earlier exit from the principalship (Skaalvik, 2020).

The short tenure and vast demands of principals indicate the need for an in-depth examination of the relationship between self-efficacy and grit among principals. Furthermore, a need exists to discern the differences in self-efficacy and grit among the principals who do and

do not participate in a principal development program and the differences in the influence on self-efficacy and grit on principal persistence based on years in the role. The findings of this study could inform practices for principal development and support. As a point of clarification for the study, the principal pipeline was not the only professional development program included in the study; participants were asked to declare whether or not they had participated in any professional development program separate and apart from that offered in the districts for which they were employed at the time of the survey.

Theoretical Framework: Bandura's Psychological Theory of Self-Efficacy

Bandura's self-efficacy theory was the theoretical framework used to examine the role of the campus principal. According to Fisher (2014), "Self-efficacy of the professional refers to the belief that one can successfully perform the task of one's profession" (p. 59). Social cognitive theory has two major components: self-regulation and self-reflection (Bandura, 1977). Specific to Bandura, Olson and Hergenhahn (2013) defined self-regulated behavior as "behavior that is regulated by one's own performance standards, moral codes and imagination" and self-reflection as the "metacognitive capability to reflect on the directions, consequences, and meaning of our plans and actions" (p. 432).

The two components of self-regulation and self-reflection indicate how individuals reflect on their actions to guide future behaviors (Bandura, 1977). Personal beliefs about one's abilities more accurately determine task completion than actual ability. Individuals with high self-efficacy set rigorous goals and are more likely to persist in trying situations. In contrast, those with low efficacy may struggle to persist because of overwhelming self-doubt.

Bandura's Triadic Reciprocal Causation to Explain the Construct of Self-Efficacy

Bandura's triadic reciprocal causation model indicates that behaviors result from the codependency of three elements: person, environment, and behavior (Olson & Hergenhahn, 2013). Figure 1 is a pictorial representation of triadic reciprocal causation.

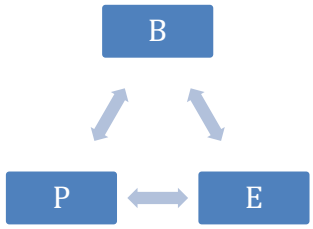

Figure 1 *Triadic Reciprocal Causation*

In the model, B is behavior, E is environment, and P is person. The model shows the interaction among the three components. According to Bandura (1997), the three components do not have an equal distribution of influence; rather, interactions occur at varying levels in situations and are dependent on one another.

Jointly, these three components are the structure for what Bandura referred to as human agency. Human agency indicates that the interactions of behavior, environment, and person influence a person's belief system (Bandura, 1986). Summarizing the influence of beliefs over behaviors, Bandura (1986) asserted that "what people think, believe and feel affects how they behave" (p. 25).

The significance of the triadic reciprocation causation for this study was its applicability to the role of principal. A principal's self-efficacy fluctuates based on the task, and the triadic reciprocal causation indicates that human agency is a factor in determining behaviors. Olson and Hergenhahn (2013) defined human agency as "the conscious planning and intentional execution of actions that influence future events" (p. 335). According to Bandura (2001), human agency produces differentiated behaviors and outcomes. Exercising human agency means understanding

that one is not merely a victim of circumstances or a bystander of situations; instead, people are "agents of experiences rather than undergoers of experiences" (Bandura, 2001, p. 4). When put into motion, then, human agency is a driver of circumstances and results. In summary, human agency enables an individual to influence the outcomes of situations; thus, actions have a significant influence on outcomes.

Bandura's Sources of Self-Efficacy

The social cognitive theory contains four areas Bandura (1977) deemed sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. Recent scholars have referred to these four sources as mastery experiences, vicarious experiences, social persuasion, and psychological response. The sources of efficacy influence an individual's current and future actions toward task completion (Fisher, 2014).

Mastery Experiences

Mastery experiences are the most influential sources of self-efficacy. Individuals who derive self-efficacy from successful task completion have the highest efficacy, whereas those who experience repeated failure develop lower self-efficacy (Bandura, 1977). Mastery of experiences enables individuals to gain increased efficacy, persist in challenges, and transfer their perceptions of their abilities to other situations. As such, opportunities to engage in mastery experiences could influence principal efficacy.

A principal's decision-making experience and history of success with challenging tasks could indicate self-efficacy. According to Murphy and Johnson (2016), a principal's experience with leading groups through challenging times and the principal's tenacity to address such situations could affect efficacy. Principals who persist through new learning challenges improve their abilities and leadership skills due to feelings of success and mastery.

The significance of this concept is that principals who increase self-efficacy exude confidence, thus increasing efficacy among subordinates (Murphy & Johnson, 2016). Principals who capitalize on past successes and keep these successes at the forefront are likely to have higher self-efficacy and the ability to execute sound decisions. Airola et al. (2014) indicated that principals must lead in high-stakes environments; thus, their abilities to remain confident and achieve high self-efficacy could indicate the success of their entire school systems. Thus, principals' success with mastery experiences could indicate self-efficacy.

Vicarious Experiences. The second source of self-efficacy is vicarious experiences. According to Bandura (1977), vicarious experiences include live and symbolic modeling. Vicarious experiences are beneficial because they can influence individuals' beliefs in their abilities. People who witness someone succeeding with a particular task may transfer that level of success to their abilities. Vicarious experiences enable individuals to understand "that even the most anxious can eventually succeed through perseverance" (Bandura, 1997, p. 197).

Vicarious experiences alone do not provide the skills needed to be a successful principal. However, they may impart a sense of hopefulness and examples of success, making the demands of the principalship appear attainable. As indicated later in this chapter, frameworks for building the skillsets of aspiring or novice principals often include vicarious experiences. The study presents one such example of leveraging vicarious experiences with an in-depth look at the research behind the goals and operations of the Principal Pipeline.

Novice principals who are mentored gain the ability of transferring vicarious experiences. In a mentoring model for principals, experienced principals act as leadership mentors and leverage their leadership experiences to guide and mentor less-experienced principals. Lochmiller (2014) focused on leadership mentoring models in a qualitative study with 27

participants, 12 of whom were coaches. The results showed that leadership coaching around instruction during the first year of principalship led to increased confidence and ability among novice principals. In the instructional coaching model, the more experienced principals guided novice principals and shared advice on decision-making protocols to impart experiential learning. The coaches in the study were the most effective when they modeled positive leadership behaviors for novice principals, giving the new principals a chance to witness effective leadership in practice and build their efficacy. The exchange of ideas and modeling enabled the novice principals to strengthen their abilities to lead their campuses, as the vicarious learning provided the tools to succeed.

Social Persuasion. Bandura's (1977) third source of efficacy was social persuasion, which is the feedback received from others. Individuals encouraged by others to feel more confident tend to have increased efficacy. Conversely, people who receive feedback about their inability to complete tasks may have lower self-efficacy. The caution of this source of efficacy lies in the persuader. Credible persuaders who have had success with their abilities are more likely to provide verbal encouragement that is a more accurate picture of individuals' abilities.

Leadership coaching models also tend to include social persuasion. Ladegard and Gjerde (2014) studied leaders in a coaching model to examine whether coaching increased leadership efficacy. The coaching model included personalized goal-setting and individual sessions between leadership coaches and their mentees. During the sessions, the coaches discussed their mentees' needs and provided feedback on their leadership abilities. Additionally, the coaches approached individual needs from a personalized perspective, addressing "the challenge of different individual starting points" (Ladegard & Gjerde, 2014, p. 632). The results showed that by meeting the leaders where they were, the leadership coaches engaged in social persuasion to

increase the leaders' self-efficacy. Social persuasion provided the leaders with unique confidence in their abilities because the coaches contributed to their mentees' feelings of mastery. In conclusion, coaching from an abundance perspective could enable principal coaches to capitalize on the strengths of their mentee principal and build their skillsets in areas requiring development. Verbal persuasion in the coaching model could give mentees a heightened awareness of their strengths and a better understanding of their potential.

Psychological Response. The fourth source of efficacy is the psychological response toward tasks known as emotional arousal (Bandura, 1977). Emotional arousal is an important aspect of leadership, as it could influence principal self-efficacy (Berkovich & Eyal, 2015). Individuals with heightened stress or anxiety about completing particular tasks may achieve less success, which, in turn, could result in lowered efficacy. According to Gulmez and Isik (2020), "When individuals are not besieged with these intimidating emotions, their expectations about success will be higher" (p. 328). In contrast, individuals who set and achieve challenging goals may have increased efficacy due to heightened beliefs of possessing the skillsets needed to succeed (Bandura, 1977). Thus, campus principals who thrive in personally challenging environments may receive the greatest benefits from emotional arousal based on the degree to which they challenge themselves in stressful situations.

Increasing Self-Efficacy. Murphy and Johnson (2016) also contributed to the current body of literature around principal self-efficacy with their study of principal development programs with principal mentoring. They supported the previously mentioned finding that principals with higher levels of self-efficacy will perform better in their leadership role than their peers who have a lower level of self-efficacy. As well, they stated that mastery experiences,

vicarious learning and verbal persuasion are all aspects that may increase self-efficacy of principals in a mentoring program.

Through mastery learning, mentored principals gain a higher level of efficacy after the completion of tasks that seemed to be difficult at the onset. In a principal mentoring program, principals are carefully guided through the difficult scenarios by their mentors and have a greater likelihood of experiencing success with meeting the demands of the difficult tasks. Secondly, principals in a mentoring program can increase their self-efficacy through vicarious learning with a principal mentor; when a principal is in a mentoring program, the mentor acts as a source of vicarious learning by sharing personal stories of previous successes and by transferring their knowledge to the principal they are mentoring. Lastly, social persuasion is another powerful part of leadership development programs and mentoring. Through social persuasion with a mentoring principal, a novice principal will become more aware of their leadership capabilities and through this type of dialogue will increase their self-efficacy by creating a healthier vision of their leadership abilities. Mentoring, as described Alvoid (2011) and as mentioned by Murphy and Johnson (2016) has been coined as a powerful method for increasing self-efficacy of principals.

This subsection presented the four sources of efficacy. These sources could contribute to a principal's overall self-efficacy and will not be measured independently as the overall self-efficacy score in a compilation of the influence of all four sources (Tschannen-Moran & Gareis, 2004).

Review of Literature and Methodology

In the review of literature and methodology, the principal researcher will introduce current literature and concepts related to the study and provide an overview of the methodology used. According to Leithwood and Jantzi (2008), "Efficacy is a belief of one's own ability (self-

efficacy), or the ability of one's colleagues collectively (collective efficacy), to perform a task or achieve a goal" (p. 497). Fisher (2020) stated that principal self-efficacy consists of principals' perceptions of their abilities in five domains: "(a) general management, (b) leadership, (c) interpersonal relationships, (d) managing the school's external environment, and (e) the management of the school's pedagogic tasks" (p. 4). Concerning the principal role, leaders who possess high self-efficacy avoid low levels of successful completion of tasks and persist during times of uncertainty (Bandura, 1993).

Principals who persevere and succeed amid difficulties can develop a culture of attainable success and perseverance (Kelleher, 2016). In addition, principals who draw on their experiences and capitalize on the positive outcomes of their decision-making can build positive perceptions of their abilities to be effective leaders (Goff et al., 2014). These perceptions then influence the operation of a school. According to Goff et al. (2014), principals with high self-efficacy make more learner-centered decisions. Furthermore, principals with high self-efficacy tend to include multiple sources to strengthen the outcomes of their decisions. Principals with high efficacy set high expectations for themselves and others and persist through barriers to create a more confident school community (Versland, 2013).

Principal Self-Efficacy. As indicated, the role of the principal has changed in recent years. Studies have shown the importance of self-efficacy for sustained success in the principal role. Hannah et al. (2008) stated, "Leadership efficacy is a specific form of efficacy associated with the level of confidence in the knowledge, skills and abilities associated with leading others" (p. 669). Thus, self-efficacy could significantly impact the ability of campus principals to execute their duties and responsibilities and persist in the role despite challenges. A deeper understanding of efficacy's role in principal success could contribute to the profession.

Friedman (2020) examined principal self-efficacy by identifying the traits and skills that influence principals' professional self-efficacy. The study included 550 principals who completed a self-assessment of their skills and abilities. General skills related to those needed for tasks related to daily campus operations, such as strategic thinking, connecting with constituents, and managing personnel. Specific skills were the ability to provide teachers with instructional guidance, create student safety protocols and duty schedules, and develop processes for campus operations.

Friedman (2020) concluded that principals' perceptions of their abilities to execute general skills and leverage unique character traits indicated their overall degree of self-efficacy. In addition, Friedman found that principals with high self-efficacy had positive perceptions of the general skills (e.g., socialization skills) that enabled them to balance the political and professional demands of the role. Moreover, Friedman identified five common traits of principal efficacy: "general management; school leadership; external relations; staff management; and instructional leadership" (Friedman, 2020, pp. 836–837). The principals who rated themselves favorably on survey items related to the five common traits had higher self-efficacy. Similarly, Hesbol (2019) mentioned that principals must believe they possess the "knowledge and dispositions needed to lead an organization towards the improved functioning that supports student learning" (p. 39). In summary, both Freidman and Hesbol reiterated that principals who do not believe in their abilities or self-efficacy might not achieve great success with leading their campuses. Thus, success relates to principals' confidence in their abilities.

Bandura (1997) stated that the "quality of leadership by the principal also affects milieu in which teachers work" (p. 248), which indicates the importance of the role of campus leaders.

As campus leaders, principals contribute to the overall culture and environment in which teachers work.

Leaders with high self-efficacy avoid low levels of completion of tasks and persist during times of uncertainty (Bandura, 1993). Leader behaviors and leadership styles can influence campus culture and several aspects of teachers' perceptions (Marzano et al., 2005). Marzano et al. (2005) stated that a leader's influence extends beyond the office and into the classrooms. Principals' talents could impact more than just their own success because their efficacy extends to the campus.

Effect of Self-Efficacy on Leadership Behaviors. Several studies have focused on how leaders' self-efficacy affects leadership behaviors and styles. Gulmez and Isik (2020) presented an example of a leader's influence extending beyond the office. The researchers analyzed the influence of principal self-efficacy on leadership style through the lens of Bass's (1985) theory of transformational and transactional leadership. Bass (1980) suggested that transactional leaders use a system of reciprocated actions and contingent rewards and engage in reactive interactions with subordinates. In transactional leadership, the system and culture contain structures aligned with chain-of-command authorities, as subordinates follow their managers without question, motivated by a rewards system for task completion. Principals who operate with a transactional leadership style may fail to inspire others to commit to organizational goals due to a lack of involvement in the decision-making process (Bass, 1980).

In contrast to transactional leadership, transformational leaders support, motivate, and inspire their followers to believe in their abilities to prosper (Burns, 1978). According to Burns (1978), "The transforming leader looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower" (p. 4). Transformational leaders evoke

emotions in their subordinates and engage in different types of following than transactional leaders.

Gulmez and Isik (2020) found a positive relationship between principal self-efficacy and transformational leadership behaviors. Transformational principals are the most likely to motivate others in their organizations by stimulating collective critical thinking, inspiring followers to succeed, and creating cultures in which their subordinates also display high self-efficacy. In contrast to transformational principals, Gulmez and Isik (2020) concluded that low principal self-efficacy is related to transactional leadership characteristics. They asserted, "Leadership self-efficacy explains 10% of the variance concerning leader behaviours" (Gulmez & Isik, 2020, p. 329) and presents in leaders' behaviors toward subordinates. Thus, principals' self-efficacy could have an impact beyond their roles. Self-efficacy exists throughout the campus and influences leadership (Murphy and Johnson, 2016).

Additional scholars have also examined the impact of principal efficacy on leadership styles and behaviors. In a mixed methods study, Lowery (2014) found that highly efficacious principals were more likely to exemplify transformational leadership and prioritize the development of human capital. Another finding was that "transformational leadership practices are a reflection of principal efficacy" (Lowery, 2014, p. 48). An impactful finding of Lowery's study related to collective efficacy. Principals foster a campus in which teachers can develop high self-efficacy. Without highly efficacious principals, teachers could struggle to have confidence in their abilities (Lowery, 2014).

Hesbol (2019) focused on the role of self-efficacy in 778 principals' decision-making processes and their ability to inspire others to reach excellence. Principals with high efficacy are better able "to persuade others to perform at high levels" (Hesbol, 2019, p. 46) and believe in the

ability of those in their organizations to meet the desired outcomes. Furthermore, highly efficacious principals have common leadership behaviors, such as the ability to motivate others to reach their greatest potential, innovative decision-making, and strong beliefs in their abilities and those of their subordinates.

The principal's role in the current public school system requires a more advanced skill set than before (Clifford and Caggshall, 2021). Societal demands lead to challenging times for principals. Leaders who believe they have inherent and fixed abilities may be unable to maximize success in their roles, as they cannot rise above the influence of their self-efficacy. Such principals may also struggle to inspire those in their organization to move into innovative spaces to produce greater success (Carelton et al., 2018). Principals with low efficacy may lack the ability to formulate logical solutions to problems and lack rigor in their expectations for their subordinates (Leithwood & Jantzi, 2008).

According to Leithwood and Jantzi (2008), leaders who view their ability to lead as a fixed, inherent trait may fail to persist during adversity. Such leaders may be unable to see beyond their current situation and find solutions to remove perceived barriers. Principals with low self-efficacy attribute their schools' success to outside factors instead of believing they can influence and motivate others toward success. In addition, principals with low self-efficacy may lack the ability to define goals clearly and feel insecure in how they guide personnel (Hesbol, 2019). In contrast, leaders who believe they can develop their abilities to lead tend to have the tenacity needed to overcome adversity, perfecting their leadership skills by achieving goals that appeared impossible (Leithwood & Jantzi, 2008).

Bandura's social cognitive theory suggests that personal interactions and behaviors indicate the efficacy of individuals or a group of individuals (Pierce, 2014). Moreover, efficacy

could indicate the emotions, sentiments, behaviors, and motivations of a group. The works of Bandura and other researchers included in this subsection have shown that the quality of principal leadership and self-efficacy can influence multiple aspects of organizational success (Bandura, 1997) and behaviors.

Grit

The second construct of this study was grit. Gordon (2017) explained, "The number one predictor and factor of success is not talent, wealth, or appearance. It is grit!" (p. 170). Gordon believed that grit stemmed from understanding one's conviction and desired outcomes. In addition, the researcher suggested that grit indicates the success and quality of leadership. Recalling Duckworth's (2016) definition, Gordon described grit as "a marathon and a series of sprints combined with a boxing match" (Gordon, 2017, p. 170). In other words, grit is a commitment to a purpose that requires significant stamina and persistence, especially when faced with failure and adversity. As the driving force during the most difficult and trying times, grit contributes to the ability to continue.

Studies Related to Grit. This section presents recent studies on the importance of grit. Grit has an impact on passion and perseverance. Eskreis-Winkler et al. (2014) conducted a large-scale study on grit's influence on the retention of individuals in the military, the sales world, the educational world, and marriage. Each study, while unique to the specific group, produced findings on the value of grit for long-range commitment. Eskreis-Winkler et al. found that the higher the level of grit, the greater the likelihood of remaining committed to a cause or a purpose. Furthermore, the study suggested that grit is an indicator of long-term commitment in a universal sense.

Mascall and Leithwood (2010) suggested that principals must persist in their campus roles, "beyond three years is necessary if significant improvements are to occur in response to a principal's initiatives" (p. 371). Consequently, this study contributed to the literature on the relation of grit to principal persistence based on years in the role. In the book *Grit: The Power of Passion and Perseverance*, Duckworth (2016) used the term *grit* to describe the influence of passion and perseverance on goal achievement.

Passion and Perseverance. This subsection focuses on grit with the definitions of passion and perseverance. In addition, there is a discussion of the four common characteristics of people who have acquired high levels of grit. This segment of the literature review also presents the studies related to grit in leadership.

Duckworth and Quinn (2009) grounded their definition of grit on a series of studies of a variety of groups, including the United States Military Academy, West Point cadets, adults over the age of 25 who accessed their webpages between October 2006 and July 2007, and finalists of the 2006 Scripps National Spelling Bee. In total, they conducted six studies to define grit and formulate ways of measuring grit. They developed valid and reliable tools for measuring (see Chapter III for more details).

Passion and perseverance are both terms for grit, but there is more to grit than the traditional definitions of these two words. Simply put, passion and perseverance together produce grit. Duckworth (2016) introduced passion as more than just a strong feeling toward something. Instead, passion is a steady and enduring focus on a particular goal with lasting consistency. Thus, passion is an enduring drive toward an overarching goal. Moreover, Duckworth described passion as a "compass that gives direction and meaning to all the goals below it" (p. 63). When defined as such, passion is a long-term dedication to a cause.

In conjunction with passion, perseverance is another term for grit. According to Merriam-Webster (2020), perseverance is the "continued effort to do or achieve something despite difficulties, failure, or opposition: the action or condition or an instance of persevering." In terms of grit, Duckworth (2016) presented perseverance as the "degree of strength" (p. 77) and tenacity for a particular action toward an ultimate goal. Perseverance is the ability not to forsake goals when faced with challenges or barriers and to understand that every obstacle is an opportunity to overcome and persist while perfecting a skill. According to Stoltz (2015), tenacity is "the degree to which you persist, commit to, stick with, and relentlessly work at whatever you choose" (p. 52). Together, the three components of passion, perseverance, and tenacity indicate the level of grit.

Interest of Task. Aside from passion and perseverance, people with grit tend to have four common characteristics: interest in tasks, practice of a skill, connectedness with purpose, and hope in the future (Duckworth, 2016). Interest is that what causes an individual to feel attracted to something in the first place. According to Duckworth (2016), "Enduring fascination and childlike curiosity" (p. 91) causes interest. Via the lens of Gordon (2017), grittiness is driven by loving the work one does. When individuals love what they do, their connectedness with their work will supersede any other emotion.

Gordon (2017) described love for what one does as the influential emotion needed to overcome obstacles, as love contributes to commitment. In relationships, love enables people to find the strength to remain devoted to their significant others (Gordon & Gordon, 2020). Similarly, according to Gordon (2017), love and a fervent interest in what one does enable individuals to create conditions for great things to occur, even when others do not know what

those will be. Love is a way to dispel fears of the unknown. “The love and grit you possess on the inside will create the life you experience on the outside” (Gordon, 2017, p. 172).

Practice of Skill. Practice is the discipline required to perfect a skill and the focus needed to attain mastery. Practice is a long-lasting dedication to improving. In some cases, enduring commitment is a trait synonymous with tenacity. Stoltz (2015) defined tenacity as the “sheer relentlessness, perseverance, never-say-die effort one puts into whatever one does” (p. 52). Interest and tenacity enable an individual to remain interested in a goal. Staying focused and refining the skill is the value of long-enduring practice.

As a factor of success, practice is an essential part of mastering a skill. Gladwell (2008) established that becoming an expert in a skill requires a minimum of 10,000 hours of practice. Additionally, an individual must engage in deliberate and intentional practices. According to Samora et al. (2019), “Deliberate practice is defined as highly structured activity with the specific goal of improving performance” (p. 452). Although Samora et al. described practice related to orthopedic surgery, the importance of mastery of skills is a common theme among the research on efficacy and grit.

Bandura (1977) alluded to the importance of mastery experiences in a similar fashion. According to Bandura, building efficacy and refining a skill requires engaging in mastery activities that provide the opportunity to increase one’s success with a particular skill. Increasing one’s success could also result in increased efficacy related to the skill. As such, the notion of “practice makes perfect” suggests the overlapping implications of grit and efficacy.

Connectedness with Purpose. Another characteristic of people with high levels of grit, purpose is a conviction that enables people to remain connected to their ultimate goals (Senge, 1990). Individuals with purpose have clear goals and realize the common good of their actions.

In addition, purposeful individuals acknowledge their realities and leverage these realities to redefine their futures. In relation to grit, leaders with purpose have more ability to endure challenging times. Gordon (2017) indicated that "a lack of purpose is what makes us tired" (p. 152). Leaders with purpose do not give up when facing challenges; instead, they use those challenges as fuel for their passion to preserve and achieve their goals. In addition, leaders who define their convictions use them as guidance and inspiration along their paths.

Sinek (2009) discussed the importance of purpose in his description of Dr. Martin Luther King, Jr. According to Sinek, Dr. King's purpose was to penetrate society and the "clarity of his WHY, his sense of purpose, gave him the strength and energy to continue his fight" (p. 127). Sinek further described purpose as the driving force in persisting through adversity and staying the course through challenging times. Despite the challenges and barriers faced during the civil rights movement, King persisted because of his purpose. Additionally, King's purpose provided others with a clear path to the ultimate destination. Thus, people followed King because he felt driven by his purpose, and he communicated this purpose with clarity. The significance of King's story to the role of the principal is that, regardless of the leadership platform, leaders must feel driven by their purpose to persist through adversity and acquire tenacity. Sinek (2016) stated, "Success comes when you are clear in pursuit of WHY you want it" (p. 181).

Hope. The fourth characteristic of grit is hope. The link between hope and grit is a deeper understanding of outlook's influence on grit. Lopez (2013a), a lead researcher of hope in students, referred to hope as the disposition by which people believe their futures are more promising than the present and can influence their futures with their actions. Furthermore, Lopez stated, "Hopeful thinking combines future thinking with a sense of agency or personal efficacy" (p. 19). Duckworth (2016) framed hope similarly, indicating that people with high levels of grit

hope that the next day will put them closer to achieving their end goal and that they can overcome obstacles.

Lopez (2013b) applied the concept of hope to goal attainment with students. The researcher described hope as a driving force in students' goal attainment and the reason for approximately 12% of the variance in academic success. Although Lopez focused on students, the concept of hope may apply to other groups. In a related study of hope and self-efficacy in college students, Gallagher et al. (2017) found that hope was an influencing factor in the grade point averages of college students. According to Feldman and Kubota (2015), "Self-efficacy is largely agnostic regarding whether an action will lead to goal outcomes, whereas hope concerns expectancies that one can achieve goals through the combination of goal directed (pathways) and motivation (agency)" (p. 211). The four characteristics of grit contribute to high levels of grit; in contrast, people without these characteristics and grit could have dreams without plans for achieving them.

Grit in the Field of Education. This study's introduction briefly presented the work of Eskreis-Winkler et al. (2014) to indicate the importance of grit in principalship. Researchers have studied grit in a multitude of settings, including the academic world. Students with grit and self-efficacy have a greater ability to stick with their academic plans and complete their goals, such as attaining postsecondary degrees. Regardless of grade point average and intelligence quotient (IQ), gritty and self-efficacious students are more likely to persist to degree completion despite academic failure, personal defeat with coursework, or a lack of support from outside sources (Alhadabi & Karpinski, 2020).

Robertson-Kraft and Duckworth (2014) found grit to be a determinant of persistence in new teachers. Robertson-Kraft and Duckworth examined over 300 novice teachers to determine

if grit influenced persistence in the first and second years of teaching and if traditional predictors, such as college grade point average, were valid indicators compared to grit. The findings showed that grit was the greatest predictor of persistence, enabling novice teachers to endure the challenges of new learning and the emotional strain of their new responsibilities. Similarly, Dale et al. (2018) found that gritty individuals persisted through challenges and experienced greater success because of the commitment to their goals and tendency to push their limits when entering new territory for personal growth.

Caza and Posner (2019) applied grit studies to the sales world and investigated the impact of grit on the leadership behaviors of sales managers. The researchers surveyed 344 sales managers using the Leadership Practice Inventory that was based on the five practices of exemplary leadership as outlined by Kousezes and Posner (2017) and the Grit Scale. According to Caza and Posner (2019), the purpose was to "study the leadership implications of the personality trait of grit among sales managers" (p. 37) and the impact of grit in the leadership of sales managers. They found that sales managers with higher grit were "more willing to stick with, stand up for, and live by their principles" (Caza and Posner, 2019, p. 42). In addition, gritty sales managers persisted through the challenges of failure and continued on their paths, even amid less-than-favorable results. Lastly, their findings aligned with Bandura's (1977) mastery of experiences. Caza and Posner (2019) mentioned that on-the-job experiences build grit and confidence, providing opportunities for individuals to navigate new and challenging experiences. As was the case with Bandura, the mastery of experiences is a way to increase efficacy as well.

Grit and the Current Study. The present study focused on grit in principals. Mascall and Leithwood (2010) indicated that principals must persist in their campus role beyond 3 years to make a difference. Therefore, understanding grit and persistence in principalship could

indicate how to enhance current practices in principal development. In addition, this study's focus on grit could contribute to the literature, filling the research gap on self-efficacy, grit, and persistence in principalship.

Leaders' actions and perceptions influence organizational culture and those in their organizations (Coyle, 2018). As leaders of their campuses, principals also have an impact on their schools and those in them. Thus, when principals see potential barriers or challenges as opportunities to grow and learn, campus personnel may follow by becoming grit partners (Hoerr, 2017). Grit partners are school personnel who understand and embody the value of struggling through challenges, persisting, and internalizing the importance of behaviors and reactions to failure.

Today's principals face different challenges than in past decades and school systems have evolved into creating principals who must be focused on instructional leadership and who are accountable student achievement outcomes (Clifford and Coggshall, 2021). Principals' self-efficacy indicates their determination to overcome obstacles, the energy they devote to the role, "how long they persevere in the face of obstacles, and their resilience to failure" (Kafka, 2009, p. 502). Leaders who embrace the concept of being lifelong learners can shape a culture of followers who also have a higher self-efficacy; for those leaders who remain connected to their purpose have a greater likelihood of persisting through challenging time because of their strong convictions and appreciation for the lessons learned when overcoming challenges (Senge, 1990). According to Coyle (2018), when leaders model behaviors aligned with life-long learning, they "set insecurities aside and get to work" (p. 177).

Research Related to Principal Development

Levin and Bradley (2019) identified the barriers to principals' persistence in the role. One of the top reasons principals left the position was a lack of access to professional development for the role's demands. Fisher (2014) studied patterns of principal self-efficacy and found that principals had the highest self-efficacy during the first year of the principalship. In addition, Fisher noted that principals' efficacy decreased until their tenth year in the role, at which time principal self-efficacy began to increase. Lastly, Fisher (2020) suggested that that sustained principal mentoring by principals with a minimum of ten years of experience in the role could be a way to avoid decreased self-efficacy during the first five years of the principalship. The years of experience for mentoring principals has been recommended as such because it is at this point in their careers that principals begin to experience an increase of principal self-efficacy (Fisher 2020).

The Principal Pipeline. In 2017, there was an organization established in Texas to address the lack of access to principals' professional development. The Principal Pipeline's (2017) mission is "to impact over time the quality of K–12 public education for all Texas students by supporting and developing educational leaders". The Principal Pipeline (pseudonym) is a 5-year professional learning experience for select leaders from cohort districts. Districts are selected for the program based on a set of predetermined criteria that was set separate and apart from this study. Additionally, the district selection rubric for program participation was not available at the time of this study. Once districts have been selected to participate in The Principal Pipeline, each district will select participating principals based on a set criterion as outlined by The Principal Pipeline. The program's professional learning experiences align with the works of Bandura and Duckworth, with participants engaging in leadership coaching, hands-

on experience, vicarious engagement, and an awareness of leadership tendencies as based on surveys submitted by the program participants' stakeholders. The Principal Pipeline development occurred based on leadership models with statistical evidence of sustained effectiveness for building principal pipelines, such as those of the educational systems seen in Ontario and Singapore. Following is a discussion of the theoretical models of both systems; Chapter III presents an extensive description of the selection process and the Principal Pipeline models.

Ontario Public School Systems & The Principal Pipeline. Two Principal Pipeline experiences enable cohorts to visit different countries to view successful leadership pipelines. In one trip, members go to Ontario, Canada, where they learn about the leadership development of the Ontario Public School System. The Ontario Public School System has a unique system for building the principal pipeline with a framework that includes several theorists and proven practices worldwide. In Canada, "School leaders are pivotal to the development of excellent teaching, excellent schools and ultimately, enhanced student achievement and well-being" (Institute for Educational Leadership, 2013, p. 3). As such, the school systems structure in Canada prepares principals for increased student achievement.

Canada's leaders saw the need for a robust overhaul of principal preparation based on a 2003 Canadian Association of Principals' Leadership Crisis study. The study indicated the need to build and prepare principals to proactively address a severe projected shortage of principals (Institute for Educational Leadership, 2008). At the time of the study, Canada had a potential leadership shortage, as between 37% to 46% of principals would become eligible for retirement within 5 years. Thus, educational leaders assembled a task force and a leadership succession plan as a preemptive measure for the projected leadership crisis.

The country's leaders established school systems and protocols for building future principals to address retirement and the potential shortage. As such, the work commenced with evaluations of principals' temperaments. The sources of job dissatisfaction that contributed to principals' departure from the role included balancing overwhelming duties and understanding the theory of leadership without hands-on opportunities to apply theoretical knowledge (Institute for Educational Leadership, 2008).

The Ontario School of Leadership addressed the sources of job dissatisfaction with a series of changes, such as the development of an aspiring leadership cohort. One cohort practice aligns with the concept of mastery experiences for self-efficacy (Institute for Educational Leadership, 2013) via placing aspiring principals in developmental assignments similar to internships. Aspiring principals in the Ontario School of Leadership are current assistant principals in their school systems who are identified as high potential principal candidates as based on the Ontario School of Leadership definition of high potential leaders. The developmental assignments allow aspiring principals to navigate demanding situations with their leadership skills while under the supervision and direction of mentoring administrators. Although aspiring principals may find some assignments overwhelming, the developmental assignments tend to have positive results. The assignments enable aspiring principals to gain skills and confidence in their abilities and address similar scenarios in future assignments. Additionally, aspiring principals increase their efficacy by gaining confidence in their ability to overcome adversity.

Another change to the Ontario Public School System was the rigorous selection of promising candidates for aspiring principal cohorts to create a strong pipeline of principal successors. Recruiting promising leader candidates was the solution for finding successors to fill

a significant number of principal vacancies. Aspiring principals, current assistant principals identified as high potential leaders, participate in an arduous leadership development program with only the most promising leaders accepted (Institute for Educational Leadership, 2013).

Once invited into the cohort, aspiring principals engage in developmental activities related to principals' responsibilities. Developmental activities provide experiences to address the needs of school communities and engage in problem-solving for school issues. According to the Ontario model, these activities strengthen leaders by placing them in unknown situations where they can build their capacity. In some cases, aspiring leaders in Canada receive leaves of absence from their positions for placement in settings that provide full immersion in the role (Institute for Educational Leadership, 2008). Thus, aspiring principals receive mastery experiences they can leverage to build efficacy.

At the model's onset, the results showed that the system presented its own type of vicarious experiences for building principal candidates. The model includes job shadowing opportunities and case studies of successful principals in the Ontario school system; as has been presented by Bandura (2012) and Fisher (2020) vicarious experiences can nurture a higher principal slef-efficacy. According to the Succession Planning for Ontario Schools and School Board (2008), "Some of the best learning came from reviewing and discussing case studies. We need to give candidates more opportunities to job shadow principals and vice-principals so that they can gain a deep understanding of the job" (p. 12). In relation to Bandura's noted sources of efficacy, these vicarious experiences contribute to the skill sets and confidence of aspiring principals (Institute for Educational Leadership, 2008).

Vicarious leadership learning has particular value for aspiring principals, providing insight into how to successfully address situations and execute challenging tasks. Aspiring

principals who engage in vicarious learning may gain the ability to adapt with encouragement and guidance from role models. Additionally, Versland (2013) indicated that relationships with other principals and engagement in vicarious engagements could be a way to prevent decreased self-efficacy and encourage reflective decision-making. Principals who can implement a collaborative culture for decision-making can also distribute the emotional stress of the principalship. Versland indicated that principals better able to handle stress feel more in control of their performance outcomes and increase their efficacy and persistence during difficult times in their leadership journeys.

The Principal Pipeline and Singapore School Systems. Because of its sustained success with leadership pipelines, Ontario has been the site for visits from cohorts of leaders in the Principal Pipeline. Cohorts also learn from Singapore, an educational powerhouse as defined by the results of the Program International Student Assessment (PISA) (Hunt, 2016). According to Hunt (2016), Singapore teens outperform all other countries in the area of science, math and reading and this performance is partially attributed to the country's leadership development models. The Singapore education system has a different structure than most other countries and works in conjunction with local universities to execute a unique principal preparation model that is afforded to high potential assistant principals in their school systems. Like Ontario, Singapore has a rigorous process for identifying aspiring principals. By design, only about 5% of educators in Singapore participate in aspiring principal programs (Jayapragas, 2016). The Singapore model for principal preparation, known as the LEP, is a 6-month paid internship for select principal candidates. With a typical principal transition, there will be a dip in student achievement scores (Bartenen, et al., 2019); however, in the Singapore model principal preparation is designed to

curb the dip in achievement with the appropriate preparation of aspiring principals as instructional leaders.

Singapore educational leaders studied the correlation between principal development and student achievement at LEP onset. According to Wahlstrom et al. (2010), effective principals support higher student achievement because school leaders impact teachers. Thus, the LEP is a means of developing leaders to increase the country's overall academic achievement. According to PISA results, the LEP enabled Singapore to be an education powerhouse with its 2015 performance, as "Singapore's fifteen-year-olds outperformed those of every country in reading, mathematics, and science on the 70-nation [PISA]" (Center on International Education Benchmarking, 2016, p. 1).

The LEP cohorts develop and execute creative action projects (CAP). CAPs require aspiring principals to construct novel initiatives that contribute to sustaining innovative school systems at their assigned campuses. Furthermore, CAPs enable aspiring principals to practice real-world application of the theoretical study of effective leadership. According to Jayapragas (2016), "The participants experienced first-hand the challenges of leading people without rank and facilitating changes without position" (p. 98). In addition, the Singapore model enables aspiring principals to learn new skills they can transfer to an array of scenarios. Once again, the inclusion of mastery experiences is a prevalent component in principal development.

In conclusion, the Principal Pipeline provides school leaders with opportunities to study leadership development models from around the world, with optional study trips to Ontario and Singapore. Jayapragas (2016) stated, "This new educational agenda demands a new type of school leader; one who is confident in dealing with dynamic and complex context" (p. 93). The educational leadership models in the Principal Pipeline present cohorts with established, sound,

and sustainable models that show the importance of mastery experiences as means of building successful leaders with high efficacy.

At the onset of the Principal Pipeline district-level leaders from the cohort districts learn to transform principal development and support their respective districts. In Year 2, select principals receive the opportunity to engage in a 2-year process of identifying and addressing problems of practice (The Principal Pipeline, 2019). During this phase, principals get directly involved in individualized plans that include professional development sessions and executive coaching.

As indicated, people who persist through new learning and challenges, such as those in the LEP or CAP, can face future challenges due to their mastery of experiences and increased efficacy (Bandura, 1977). Murphy and Johnson (2016) also indicated that making it through challenges successfully correlates with increased efficacy and the realization of having the skills necessary to persist through challenges. The Ontario and Singapore models provide experiences for aspiring leaders to increase their efficacy, build confidence in their abilities, and increase their persistence in the principal role.

Chapter II Summary

This literature review commenced with a historical perspective of the principal role in Texas and an overview of the literature on principal persistence. There was a presentation of the theoretical framework of Bandura's social cognitive theory, triadic reciprocal causation, and the sources of self-efficacy. In addition, the chapter presented the literature on grit and its influencing factors.

Chapter II included an explanation of the Principal Pipeline and descriptions of the principal development models in the Ontario and Singapore school systems. There was a

discussion of Principal Pipeline cohort goals as an introduction to study participants in the next chapter. Chapter III presents a description of the methodology used for this study.

CHAPTER III

METHODOLOGY AND FINDINGS

Chapter II was a review of the literature on self-efficacy, grit, persistence, and professional development. Chapter III provides in-depth descriptions of the study's constructs and the methodology used to examine self-efficacy, grit, and persistence in the principal role. This chapter includes an explanation of the study's methods and rationale, population and participants, data collection instruments, and data collection and analysis processes.

The study's variables were self-efficacy, grit, principal development, and persistence. The study's guiding research questions were:

1. What, if any, relationship exists between self-efficacy and grit in the role of principal?
2. What differences, if any, in self-efficacy and grit exist among principals who participate in a principal development program and those who do not?
3. What, if any, differences in self-efficacy, grit, and persistence in the job role exist among selected principals with varying years of experience?

The hypotheses for the research questions were:

$H_0$1: No significant relationship exists between the self-efficacy and grit of selected principals.

$H_0$2: No significant differences exist between the self-efficacy and grit among principals who participate in a principal development program and those who do not.

$H_0$3: No significant relationship exists between self-efficacy, grit, and persistence among principals with varying years of experience.

Variables

Mills and Gay (2016) defined a variable as "a characteristic of [a] study that is subject to change" (p. 467). Furthermore, Hinkle et al. (2003) described independent variables as those manipulated or classified in a study and dependent variables as "measures of the effect of the independent variables" (p. 8). This study included both independent and dependent variables. A survey was the instrument used to collect data on principals' perceptions of self-efficacy and grit, resulting in a range of responses, as indicated in the instrument subsection of this chapter. The participants replied based on the ranges embedded in the survey; therefore, the responses were ordinal variables (Mills & Gay, 2016).

For Research Question 1, self-efficacy was the independent variable, and grit was the dependent variable. The calculation of a correlation coefficient occurred to indicate the relationship between the two variables. For Research Question 2, the independent variable was participation in the principal development program, and the dependent variables were self-efficacy and grit. For Research Question 3, the independent variable was persistence measured by years of experience, and the dependent variables were self-efficacy and grit. In Research Questions 2 and 3, self-efficacy and grit were the dependent variables impacted by principal development and persistence (Hinkle et al., 2003). A MANOVA commenced to address Research Questions 2 and 3.

Methods and Rationale

The goal of this quantitative study with a survey research design was to discern if a relationship existed between self-efficacy and grit and persistence of identified principals. Mills

and Gay (2016) noted that survey research is a way to collect data "to test a hypothesis or to answer questions about people's opinions on some problem or issue" (p. 191). In this study, a survey was the instrument used to collect and analyze the principals' opinions of their self-efficacy and grit. The surveys were the Principal Efficacy Scale (Tschannen-Moran & Gareis, 2004) and the Grit-S (Duckworth & Quinn, 2009).

The IRB at The University of Texas Rio Grande Valley granted approval to conduct the study. Next, the district's designees reviewed the letters of permission to determine whether the district would participate in the study. Once reviewed, the district communicated with the principal investigator regarding their decision regarding participation. If the district participation was confirmed, the approved to conduct the study was granted. The study with participating districts commenced by emailing the surveys to campus principals in the selected districts. Because there was a focus on the participants' opinions at one point in time, the survey was a cross-sectional survey (Mills & Gay, 2016). There were then conclusions drawn about the self-efficacy, grit, principal development, and persistence of principals in Texas public schools. Per Mills and Gay (2016), this type of data collection is a sample survey, as it was a way to infer information about the larger group of principals in Texas based on data from a sample from that population.

Quantitative research requires the statistical analysis of data. According to Mills and Gay (2016), statistics are "a set of procedures for describing, synthesizing, analyzing, and interpreting quantitative data" (p. 453). Based on this definition, this study comprised descriptive statistics rather than parameters due to collecting data representative of a sample of a larger population. The descriptive statistical analysis resulted in a rich analysis of various data components. However, one of the drawbacks of compiling data with this type of study is that results are

dependent on the participants' perceptions and feelings. Therefore, the data reflected the participants' perceptions of the items in the survey.

According to Mills and Gay (2016), "*Measures of relationship* indicate the degree to which two sets of scores are related" (p. 496; emphasis in original). For Research Question 1, a measure of relationship helped to define the relationship between self-efficacy and grit. The correlational research commenced with a Pearson *r* correlation coefficient calculation of the completed surveys. The Pearson *r* correlation coefficient was the statistic used for the scores for self-efficacy and grit calculated via the scoring mechanism of the scales used in the study. Pearson r was appropriate because it is a widely used coefficient for educational research that provides a solid analysis. Before data collection, an assumption was that the Pearson *r* correlation coefficient calculation would indicate the degree of the relationship between self-efficacy and grit. A correlation coefficient near +1.00 or -1.00 indicates that the variables are highly correlated.

A different type of analysis commenced for Research Questions 2 and 3. Research questions 2 and 3 focused on the differences in the self-efficacy, grit, and persistence of varying subgroups of participants. A MANOVA commenced to analyze the data related to these questions. Per the description of this statistic by Mills and Gay (2016), the MANOVA was appropriate to analyze the data for the interactions of the independent variables of self-efficacy and grit.

Population

This study's population included current principals from selected districts. Of the 12 possible districts, nine were part of the Principal Pipeline and consented to participate. According to the Texas Education Agency's Academic Progress Reports, the identified districts

included 360 principals, 208 of whom opted to participate. Collectively, the districts in the Principal Pipeline cohorts provided services for approximately 450,228 students in Texas public school systems (Texas Education Agency, 2019).

Participating in the Principal Pipeline required undergoing a rigorous selection process with multiple screening layers. After completing an extensive review of a paper application, appropriate districts hosted site visits. During these visits, a Principal Pipeline interview committee took an in-depth look into the culture and leadership capacity of the districts. The site visits included interviews with employees from multiple layers of the organization, campus tours, and intense upper-level district leadership teams assessments.

The goal of the Principal Pipeline selection process is to improve public schools in Texas by building more effective principals (The Principal Pipeline, 2017). The program focuses on three essential points: developing leadership, developing others, and effectively creating organizational change. The program has a 70/20/10 model in which 70% of building principal capacity stems from real-world application of learning, 20% from dealings and collaborations with others, and 10% from formal education on leadership theories. The core belief of the Principal Pipeline is that deep-rooted organizational change occurs when leaders commit to their organizations. Accordingly, leaders must have a passion for what they do to persist through the highs and lows of the principalship.

In *The Principal Pipeline* experience, cohort leaders participate in study trips for first-hand leadership development experiences from models worldwide with systemic effectiveness and proven practices for leadership development. During the study trips, the cohorts engage with senior leaders of the model organizations and dialogue with those who have contributed to the sustained success of principal development (The Principal Pipeline, 2019).

The Principal Pipeline enables cohort district leaders to build pipelines with the 70/20/10 model and Bandura's four sources of efficacy (The Principal Pipeline, 2019). This is a logical connection, as creating principal pipelines in cohort districts connects with the sources of self-efficacy. The 70% of hands-on experiences relates to mastery experiences based on the idea that real-world application of theory is a way to improve principals' retention and ability to meet the expectations of the role. The 20% aspect of the model relates to vicarious experiences and verbal persuasion because the cohort members engage in leadership coaching and mentoring, both mechanisms of verbal persuasion that contribute to overall self-efficacy.

Sample

The following data show the demographics of public schools in Texas. The section also contains an extensive description of the state and district demographics. The demographic information originated from the Texas Education Agency.

This study focused on the principals of Texas public school districts in Cohorts 1 and 2 of the Principal Pipeline. In 2020, Texas public school systems provided services to 5,416,400 students throughout 20 regions (Texas Education Agency, 2020). Additionally, there were 8,416 principals employed in Texas schools during the 2017–2018 school year, an increase of about 400 from 2013–2014.

The study participants were Texas public school principals in the Principal Pipeline. In 2018–2019, districts in the Principal Pipeline provided services for 450,228 students, with 67.38% coming from economically disadvantaged backgrounds (Texas Education Agency, 2020). Enrollment demographics showed high percentages of minority students, particularly Hispanics, with the cohort districts comprised of 59.35% Hispanic and 16.08% Black students. The cohort districts had 360 principals with an average of 6.5 years of experience and 5.6 years

in their current districts. Table 1 presents the districts' demographics, with numeric identifiers used instead of names. The districts indicated with an (*) did not participate in the study.

Table 1

District Demographics

District	Enrollment	African American population	Hispanic population	Economically disadvantaged students	Total number of principals	Principal average years of experience	Principal average years of experience in the current district
1	67,234	22.7%%	72.9%%	89.20%	78	6	5.9
2	59,783	24.90%	46.60%	72.80%	78	6.5	5.4
3	29,137	18%	64.90%	76.50%	40	5.4	4.8
4	18,574	0.50%	93.40%	79.60%	30	7.8	6
5	23,108	21.40%	57.10%	63.40%	31	6.3	5.3
6	53,252	15%	41.40%	45.20%	52	4.5	4.2
7*	33,347	19.70%	43.00%	45.20%	43	9	8.5
8	5,901	3.40%	74.60%	72.40%	8	5.1	2.9
9	40,932	25%	56.60%	74.90%	49	7.4	7.2
10*	32,677	0.10%	99%	91.90%	45	6.6	6.3
11*	50,204	9%	30.70%	27.90%	64	7.4	6.4
12	36,079	39.90%	45.60%	69.50%	43	6	3.8
Totals/ averages	450,228	16.08%	59.35%	67.38%	360	6.5	5.6

* Denotes districts that opted to forego participation.

Instruments

There were two instruments used to measure the constructs of Research Question 1. The participating principals provided their demographic information before answering the survey questions, including district name, gender, age range, school level, years as campus principal, years in campus administration, and participation in the principal leadership program separate and in addition to the district-provided development for all principals. Both instruments—the

Tschannen-Moran and Gareis (2004) Principal Self-Efficacy Scale and the Grit-S (Duckworth & Quinn, 2009)—had structured items with response options (Mills & Gay, 2016). The complete survey utilized for this study was a compilation of two reliable and valid instruments that were combined to create the survey for this study (Appendix A).

Tschannen-Moran Principal Self-Efficacy Scale

The Principal Self-Efficacy Scale contained 18 questions categorized into three subscales, with six questions asked. The three subscales were efficacy for management, efficacy for instructional leadership, and efficacy of moral leadership. Items 3, 11, 15, 18, 17, and 12 focused on the efficacy of management; Items 1, 2, 4, 6, 7, and 9 on the efficacy of instructional leadership; and Items 5, 8, 10, 13, 14, and 16 on the efficacy of moral leadership. The participants responded with numbers from 1 to 9, with 1 = *not at all*, 3 = *very little*, 5 = *some degree*, 7 = *quite a bit*, and 9 = *a great deal*. The higher the score, the greater the self-efficacy (Tschannen-Moran & Gareis, 2004). There were calculations for the mean of the 18 items and for each subscale.

Short Grit Scale

The second tool used in the study was the Grit-S (Duckworth & Quinn, 2009). From a large-scale perspective, the scale has had validity and reliability in six studies, including undergraduate students at Ivy League universities, West Point cadets, and Scripps National Spelling Bee participants (Cavazos et al., 2018). These studies were means to determine whether grit was a predictor of success for participants of different ages and educational levels.

The Grit-S scale has eight questions with a two-factor model from an adapted 12-item Grit-O scale (Duckworth & Quinn, 2009). The participants selected one of five answers, from *very much like me* to *not like me at all*. In the data analysis, each answer choice received a

numerical value between 1 and 5. For Questions 2, 4, 7, and 8, the response of *very much like me* received a numerical value of 5, *mostly like me* received a numerical value of 4, a *somewhat like me* received a numerical value of 3, *not much like me* received a numerical value of 2, and *not like me at all* received a numerical value of 1. For Questions 1, 3, 5, and 6, there was a numerical value of 1 assigned to *very much like me*, 2 to *mostly like me*, 3 to *somewhat like me*, 4 to *not much like me*, and 5 to *not like me at all* (Duckworth & Quinn, 2009).

The calculation of the degree of grit for each participant occurred per the method by Duckworth and Quinn (2009). Calculating the overall level of grit entailed adding all the numerical values of the responses and dividing them by eight, with the final value indicating the participant's grit. Participants scoring 5 had the most grit, while those with a score of 1 had the least grit.

Reliability and Validity

The Principal Sense of Efficacy Scale (Tschannen-Moran & Gareis, 2004) and the Grit-S (Duckworth & Quinn, 2009) had reliability and validity. Tschannen-Moran and Gareis (2004) developed the Principal Sense of Efficacy Scale based on Bandura's research to measure principals' self-efficacy. The researchers used three critical studies to design their instrument. The first study focused on a tool for measuring teacher and student efficacy by Hillman (1986); however, this survey for measuring efficacy lacked reliability. The efficacy measures were attributed to multiple factors not measured with the survey tool (Tschannen-Moran & Gareis, 2004). Tschannen-Moran and Gareis concluded that data analysis is a daunting task and that respondents could find the survey difficult to complete.

The second study reviewed by Tschannen-Moran and Gareis (2004) was by Imants and DeBradbander (1996), showing the instrument lacked validity as an accurate measure of

principals' self-efficacy; however, the tool was a valid and reliable measure of the efficacy of teachers and students. Lastly, Tschannen-Moran and Gareis reviewed the tool used by Dimmock and Hattie (1996) to measure principal effectiveness in six areas: "school development planning; teaching, learning and curriculum; managing staff; budgeting; managing parents; and managing the environment" (Tschannen-Moran & Gareis, 2005, p. #). The scale had reliability between .77 and .79 and was the strongest instrument reviewed by Tschannen-Moran and Gareis.

Tschannen-Moran and Gareis (2004) created the Principal Sense of Efficacy Survey after analyzing the three studies. In its first iteration, the survey consisted of approximately 50 questions; however, after analyzing the instrument's reliability and validity, the researchers reduced the scale to 18 questions, removing items with "a commonality of less than .30" (Tschannen-Moran & Gareis, 2004, p. 580). The Principal Sense of Efficacy Scale is a measure of three areas: efficacy of management, efficacy of instructional leadership, and efficacy of moral leadership. The final version of the Principal Sense of Efficacy Survey is a valid and reliable tool, as factor loadings ranging between .42 and .82 indicate validity (Tschannen-Moran & Gareis, 2005).

The Grit-S showed validity and reliability in six studies conducted by Duckworth et al. (2007) to define the predictors of success. The researchers used the big five model as their theoretical framework to determine the predictors of success. Duckworth et al. examined what enabled certain people to achieve significant success compared to their peers with comparable IQs; they concluded that their research would require a measurement tool that fit four criteria: (a) "psychometric soundness," (b) a transferable application for children and adults in various situations in personal and professional settings, (c) "a low likelihood of ceiling effects in high-achieving populations," and (d) "a precise fit with the construct of grit" (p. 1089). Although

Duckworth et al. found several scales for the possible factors of grit with one of the four criteria, no tool included all the outlined criteria. Thus, the researchers conducted six studies to develop a reliable and valid measurement of grit.

The original Grit scale was a 12-item tool. However, the validation process and series of six studies resulted in the eight-item Grit-S scale, which had reliability. Cavazos et al. (2018) observed that the Grit-S has "internal reliability coefficients ranging from .73 to .83" (p. 32). Each of the six studies had an intentional focus.

Study 1 focused on the influence of age and education level on grit and included 1,545 participants age 25 or older with a high level of achievement. A two-way analysis of the results showed that age and education level did not indicate grit in the population. Study 2 focused on grit and its relation to the big five traits, as the researchers studied the relationship between grit and career change. The findings of this study indicated that "individuals who were a standard deviation higher in grit than average were 35% less likely" (Duckworth et al., 2007, p. 1093) to change careers.

Studies 1 and 2 focused on the relationships between grit and age and education level. Study 3 centered around Ivy League undergraduates' cumulative grade point averages and Scholastic Assessment Test (SAT) scores. The study, which had a sample of 139 West Point cadets, indicated that persistence rather than intelligence indicates success. The studies resulted in a reliability coefficient of .79 for the Grit-S (Duckworth et al., 2007).

The goals of Study 6, which focused on minors competing in the 2005 Scripps Spelling Bee, were to learn how grit related to the contestants' IQs and extracurricular activities. The participants took IQ tests as part of the study. Ordinal regression models were the means to determine the implications of the dependent variables of IQ and study time. Duckworth et al.

(2007) concluded that the Grit-S scale had an internal reliability coefficient of .80. Notably, until this point in the reliability process, the participants had been adults in postsecondary institutions.

The series of studies indicated the reliability of the Grit-S. Grit is perseverance and passion for long-term goals (Duckworth & Quinn, 2009). The researchers tested the degree to which grit was a better predictor of success than IQ and the big five conscientiousness trait in various scenarios. After the six studies, researchers felt confident that the Grit-S results indicated that grit is a reliable measure of persistence and passion for long-term goals.

Data Collection

A dissertation committee reviewed this study's adherence to the university guidelines for research before the study commenced. Upon approval of the proposal, the university's IRB also provided approval to conduct the research. The IRB process consisted of a thorough review of the study design for approval. Data collection commenced after receiving IRB approval.

Each district designee received an invitation to review and provide approval to conduct the study in their district. Data collection occurred only in the districts that provided approval. The data collection commenced by emailing an electronic survey to 208 principals in the identified school districts, as emailing was quicker than mailing paper copies (Mills & Gay, 2016). All principals in the selected school districts—representing elementary, middle, and high schools—received invitations to participate. The district designees provided principals' email addresses per district practices and policies.

The introductory email to participants contained a short description of the purpose of the study and an explanation of voluntary participation (Appendix B). The invitation email indicated how the study could contribute to the work of public-school systems by providing a better understanding of the principal role (Mills & Gay, 2016). The principals also learned their

responses would remain anonymous but that the demographic questions would require them to identify their districts. At the end of the study's introduction, the principals could either accept or decline participation, with those choosing to participate indicating their consent. Any principals who declined participation could not take the survey. The principals who accepted the invitation were routed to a page that provided the link to the survey on Qualtrics. The participants who clicked on the survey link responded to the demographic questions, the 18 questions Principal Self-Efficacy Scale, and the eight questions Grit-S. After completing the survey, the participants received a thank-you message.

Qualtrics was the site used to house the data, with survey completion monitored daily. The participants received reminders to complete the survey via email 1 week before survey closure, 3 days before closure, and the day before closure. As part of the IRB review, it was determined that none of the questions included in the study could be required in the survey; therefore, the survey was designed as such. Qualtrics provided access to the intermittent survey results. Pictorial representations and a Microsoft Excel spreadsheet presented the data for preliminary review.

Data Analysis Procedures

Data analysis commenced with the Statistical Package for the Social Sciences (SPSS; Hinkle et al., 2003). The following sections below present the data analysis process. Research Question 1 appears separately from Research Questions 2 and 3 because it was the only question with a calculated correlation coefficient. A MANOVA commenced to analyze Research Questions 2 and 3.

Research Question 1

1. What, if any, relationship exists between principal self-efficacy and grit in selected principals?

Descriptive statistics were appropriate to analyze the data and address Research Question 1. Each response on the Principal Self-Efficacy Scale and the Grit-S received a numeric value, with the scores subsequently entered into SPSS for further analysis. Analysis commenced with the calculation of a Pearson correlation coefficient of the relationship between self-efficacy and grit. A later section of this chapter presents the results.

Research Questions 2 and 3

2. What differences, if any, in self-efficacy and grit exist among principals who participate in a principal development program and those who do not?
3. What, if any, differences in self-efficacy, grit, and persistence in the principalship exist among selected principals with varying years of experience?

A MANOVA was the statistic used to analyze the data and address Research Questions 2 and 3. The analysis included the dependent variables of principal self-efficacy and grit and the independent variables of years of experience and school level. MANOVA was an appropriate calculation to analyze the data for these questions because it allowed analyzing both types of variables (Mills & Gay, 2016). A MANOVA with a statistical significance would have required a follow-up pairwise comparison for the groups in the study with variance.

Summary

The purpose of this study was to examine if a relationship existed between the self-efficacy and grit of selected principals; the differences in self-efficacy and grit among the principals who did and did not participate in a principal development program; and the

differences in the self-efficacy, grit, and persistence in the job role of the selected principals with varying years of experience. For the purpose of this study, the status of participants versus non-participants was declared by each respondent and was decided based on each individual's experiences with professional development programs. The study and methodology were based on three research questions.

The next chapter presents the participants' demographics and summaries of the findings for the research questions. Each of the questions had corresponding data. The demographic data included each participant's gender, age range, level of campus, years of experience as campus principal, and participation in a principal development program.

CHAPTER IV

DATA ANALYSIS AND RESULTS

Introduction

Demographic of Sample

The participating districts for this study were in selected cohorts of the Principal Pipeline program. The 12 invited districts provided the structured Principal Pipeline program. Of the 12 invitees, nine opted to participate.

In the nine participating districts there was a total of 208 principals; all principals in the participating districts were invited to participate in the study and received email communication regarding the study. Participants for this study only included campus principals. All responding principals read an overview of the study to determine whether they wanted to participate. The participants then provided consent electronically before completing the survey. Of the 208 invited principals, 101 consented to participate, and 87 completed the survey, with the others leaving one or more items blank. The survey had a 48.56% response rate, 2% less than the percentage indicated by Mills and Gay (2016) as a strong enough rate to generalize findings to a larger population. Of the final sample, 32 were men and 55 were women (see Figure 2 and Table 2). As mentioned, the IRB process indicated the need not to require any items in the survey. Therefore, a discrepancy may have existed between the 87 total respondents and each subset of data.

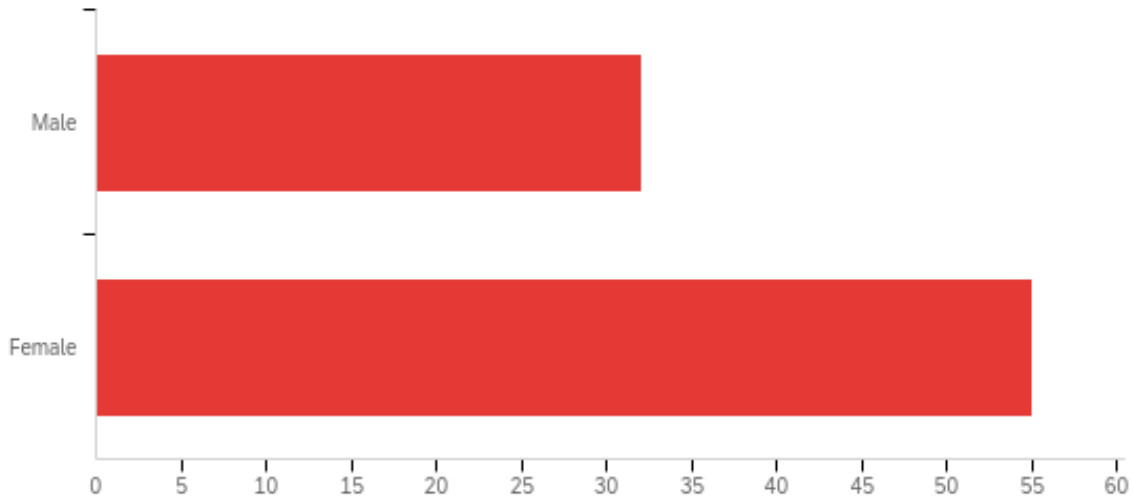

Figure 2

Respondents by Gender

Table 2

Respondents by Gender

Answer	Percent	Count
Male	36.78%	32
Female	63.22%	55
Total	100%	87

Regarding age, one respondent was younger than 30 years, 15 were 31 to 40, 46 were 41 to 50, 23 were 51 to 60, and two were over 60 (see Figure 3 and Table 3).

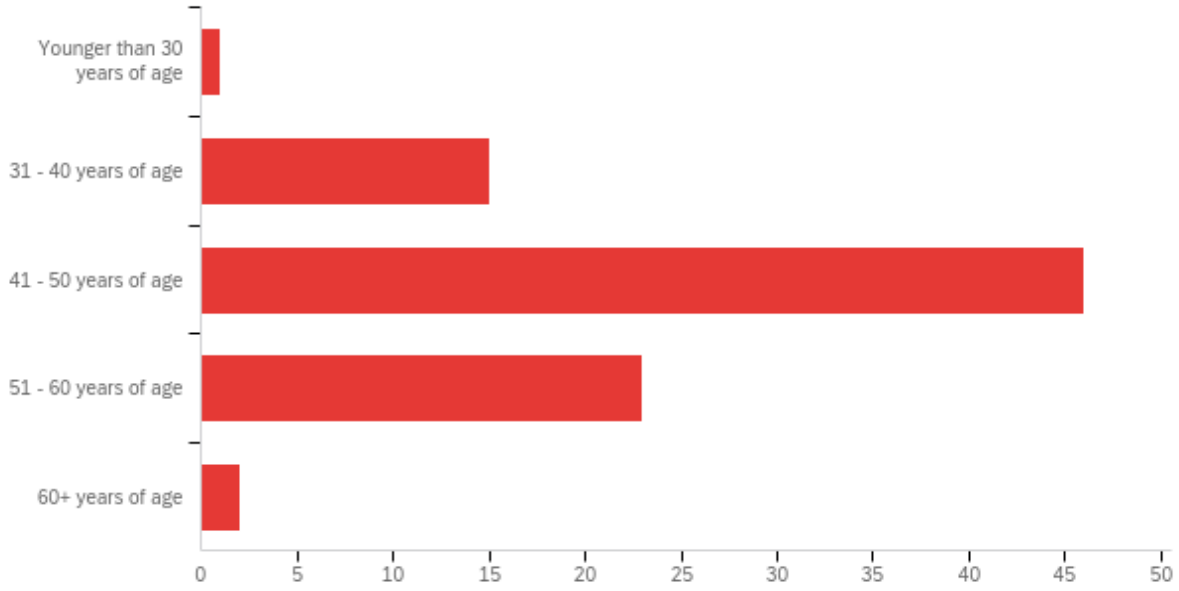

Figure 3

Respondents by Age

Table 3

Respondents by Age

#	Answer	Percent	Count
1	Younger than 30 years of age	1.15%	1
2	31–40 years of age	17.24%	15
3	41–50 years of age	52.87%	46
4	51–60 years of age	26.44%	23
5	60+ years of age	2.30%	2
	Total	100%	87

The survey had 101 respondents. All the respondents were principals of the participating school districts. Of the 87 participants who completed the survey, 47 were elementary school principals, 18 were middle school or junior high principals, and 22 were high school principals (see Figure 4 and Table 4).

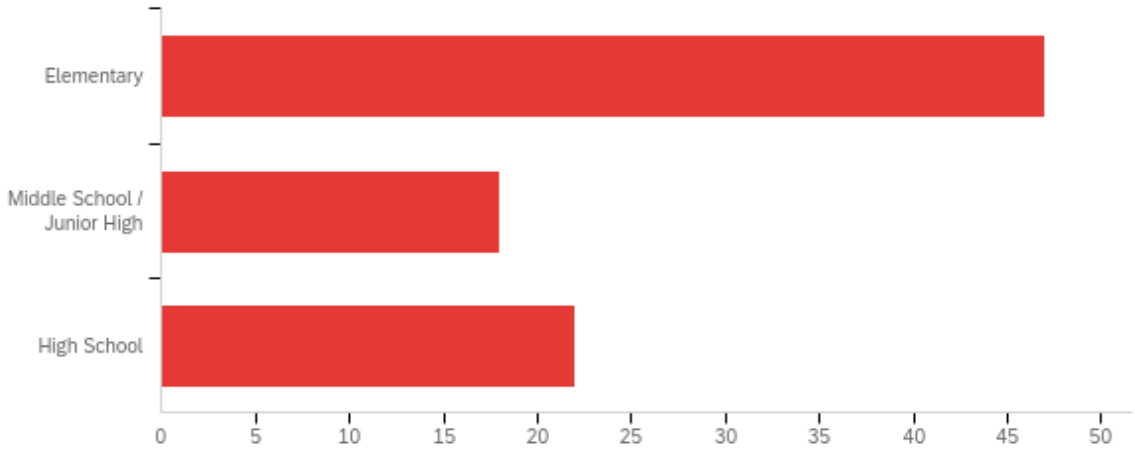

Figure 4
Respondents by Level Served

Table 4

Respondents by Level Served

#	Answer	Percent	Count
1	Elementary	54.02%	47
2	Middle school/junior high	20.69%	18
3	High school	25.29%	22
	Total	100%	87

The demographics data included the participants' years of experience as campus principals. Four respondents were in their first year as principals, 27 had between 1 and 3 years of experience, 18 had between 4 and 6 years of experience, 20 had between 7 and 10 years of experience as a principal, 32 had between 11 and 15 years of experience, and 6 had 16 or more years of experience (see Figure 5 and Table 5).

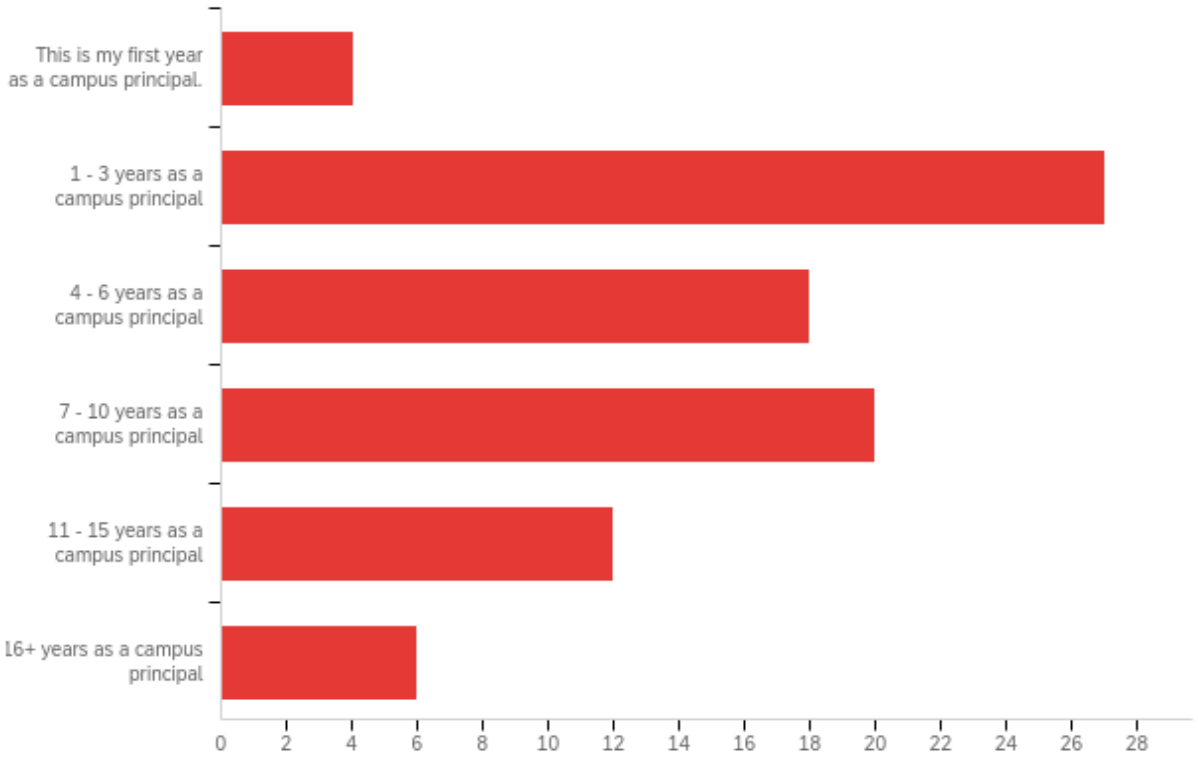

Figure 5
Range of Years of Experience as Campus Principal

Table 5

Range of Years of Experience as Campus Principal

#	Answer	Percent	Count
1	This is my first year as a campus principal.	4.60%	4
2	1–3 years as a campus principal	31.03%	27
3	4–6 years as a campus principal	20.69%	18
4	7–10 years as a campus principal	22.99%	20
5	11–15 years as a campus principal	13.79%	12
6	16+ years as a campus principal	6.90%	6
	Total	100%	87

Of the respondents, 53 indicated that they were participants of a principal leadership program separate and in addition to the district-provided development for all principals (see Figure 6 and Table 6).

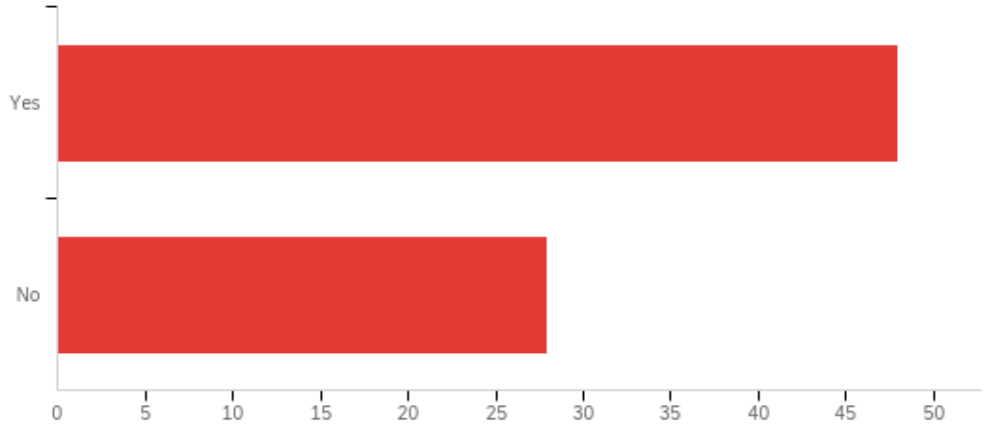

Figure 6

Participation in a Principal Leadership Program Separate and Apart from That Offered to Other Principals in Their Respective Districts

Table 6

Participation in a Principal Leadership Program Separate and in Addition to That Offered to Other Principals in Their Respective Districts

#	Answer	Percent	Count
1	Yes	60.92%	53
2	No	39.08%	34
	Total	100%	87

The first part of data analysis included a reliability test with all the variables and a total of 87 cases. The calculation of Cronbach's alpha for principal self-efficacy was .94 with $N = 26$ for the scale items on principal self-efficacy and grit (see Table 7). The Cronbach's alpha for grit was .95, with $N = 18$ for the items in the scales for principal self-efficacy and grit (see Table 8).

Table 7

Reliability Statistics

Factor	Cronbach's alpha	*N* items
Self-efficacy	.935	26
Grit	.946	18

The calculation of Cronbach's alpha indicated that both measures of the study were reliable measurements of the information provided by the respondents.

Summary of Results

Results for Research Question 1

1. What, if any, relationship exists between principal self-efficacy and grit in selected principals?

A Pearson's correlation coefficient commenced to analyze Research Question 1. The data entered into SPSS underwent disaggregation to calculate the correlation coefficient for Research Question 1. For $N = 78$, the mean for total self-efficacy was 7.26 with a standard deviation of 1.16, whereas the mean for total grit score was 3.81 with a standard deviation of .48 (see Table 8).

Table 8

Descriptive Statistics

Score	Mean	*SD*	*N*
Total SE score	7.32	1.07	87
Total Grit score	3.82	.50	87

Furthermore, the Pearson correlation coefficient was .417 and a correlation is significant at the .01 level with a 2-tailed paired test. The following table shows a summary of the findings as represented in SPSS (see Table 9).

Table 9

Correlation of Principal Efficacy and Grit

Score	Mean	Total SE score	Total Grit score
Total SE score	Pearson correlation	1	.417**
	Sig. (2-tailed)		.000
	N	87	87
Total Grit score	Pearson correlation	.417**	1
	Sig. (2-tailed)	.000	
	N	87	87

**Correlation is significant at the 0.01 level (2-tailed).

The .417 value of the coefficient indicates a moderate relationship (Mills & Gay, 2016). Furthermore, a positive coefficient indicates that as one variable increases in value, so does the other. Pearson's correlation coefficient showed a significant relationship between total self-efficacy score and total grit score. Figure 7 shows Pearson's correlation coefficient.

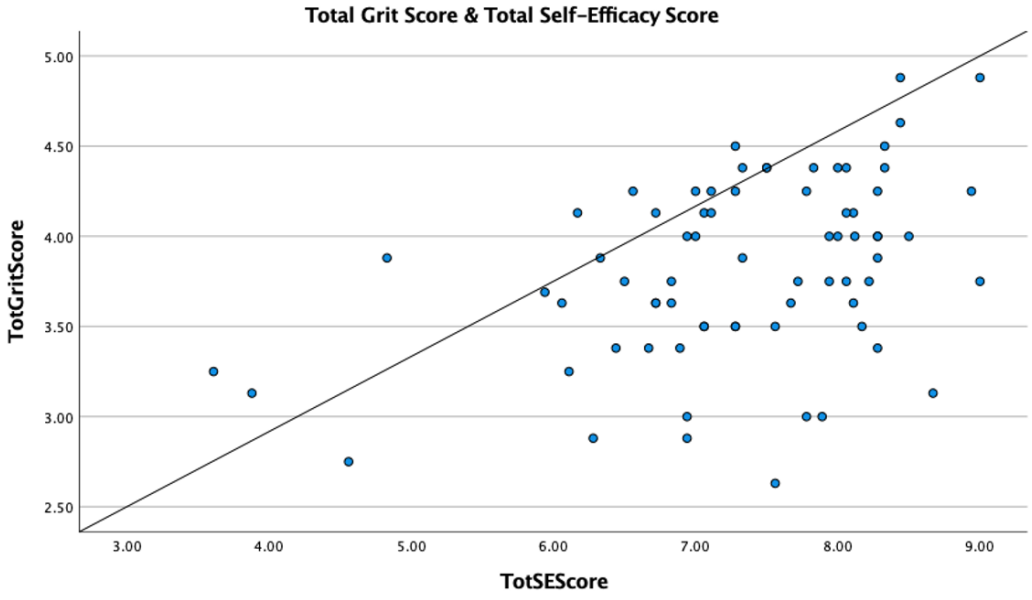

Figure 7
Total Grit and Total Self-Efficacy

Results for Research Question 2

2. What differences, if any, in self-efficacy and grit exist among principals who participate in a principal development program and those who do not?

The goal of this question was to understand the impact of principal development programs on self-efficacy and grit. MANOVA was the statistic used to analyze Research Question 2. The two groups for analysis were the principals who had participated in a structured principal development program and those who had not. For data analysis, a response of *yes* had a value of 1, and a response of *no* had a value of 2. For this portion of the study, $N = 78$. Furthermore, 45 respondents reported participating in structured professional development programs separate and in addition to what their school districts provided, while 27 indicated they had not participated in such programs.

The descriptive statistics for this data set indicated that the mean for principal self-efficacy for those participating in a structured professional development program was 7.36, while those not participating in a structured professional development program had a mean of 7.26. In order to protect the identity of the Principal Pipeline, this question did not specifically identify the program as an option to declare their participation in the program. Thus, a .1 difference existed in the self-efficacy scores between the principals who did and did not participate in the structured professional development program. This calculation had a total standard deviation of 1.07.

Regarding the total grit scores for principals, those participating in a structured professional development program had a mean of 3.84, while those not participating in a structured professional development program had a mean of 3.80. Thus, a .04 difference existed in the total grit score between the principals who did and did not participate in the structured

professional development program. Wilks' lambda was equal to .99, $F(2, 69) = .084$, $p = .92$. Effect size was $\eta 2 = .002$. Because of a number greater than α of .05, the null hypothesis was accepted that no significant difference exists in the self-efficacy and grit of the principals who did and did not participate in a structured principal leadership program.

In addition to the MANOVA, there was an ANOVA computed with each dependent variable using an α of .025. For principal self-efficacy, the scores did not produce significant results, $F(1,70) = .14$, $p = .71$ and $\eta 2 = .002$. The ANOVA for grit did not produce significant results, $F(1,70) = .10$. $p = .75$, and $\eta 2 = .001$. The results showed no significant difference between the principals who did and did not participate in a principal professional development program in addition to and separate from the traditional professional learning provided to the principals in their districts.

Results for Research Question 3

3. What, if any, differences in self-efficacy, grit, and persistence in the principalship exist among selected principals with varying years of experience?

A MANOVA commenced to analyze the data for Research Question 3. The descriptive statistics for this data set indicated that the mean of principal self-efficacy was 7.32 and that the total grit score had a mean of 3.82. Self-efficacy had a total standard deviation of 1.07, and grit had an overall standard deviation of .50. In addition, there was an ANOVA computed for each dependent variable. The varying ranges of years of experience received the following values: 1 = 1–3 years, 2 = 4–10, and 3 = 11 or more. The Wilks' λ was equal to .97, $F(4,136) = .61$, $p = .67$. Effect size was $\eta 2 = .02$. A number greater than the α of .05 resulted in accepting the null hypothesis that no significant difference exists in the self-efficacy and grit of principals with various years of experience.

Further data analysis commenced for differences in persistence in the role of the principal based on years of experience in the role. This is consistent with Bandura's concept of mastery learning where he informed scholars that with a great greater level of mastery learning came a higher level of self-efficacy (Bandura, 2012). The principals in their first through third years had slightly higher self-efficacy than those with more experience. Overall, the principals with 1–3 years in the role had a mean self-efficacy score of 7.41, those with 4–10 years had a 7.21 mean self-efficacy score, and principals with 11 or more years had a mean self-efficacy score of 7.40.

A further review of the descriptive statistics of the data produced additional information. This information is worth mentioning, as the extracted trends contributed to the study's findings. Additionally, these findings could address the wonderments about the data as they relate to the survey's demographic questions.

The data also showed that high school principals had the lowest mean score for self-efficacy, while junior high and middle school principals had the highest mean score for self-efficacy. The mean total self-efficacy score of elementary school principals was 7.22. The junior high and middle school principals had a mean total self-efficacy score of 7.74. Finally, the high school principals' mean total self-efficacy score was 6.95.

Regarding grit, the junior high and middle school principals had the highest mean score, followed by the high school principals and then the elementary school principals. The mean total grit score of junior high and middle school principals was 3.87. Next, the high school principals had a mean total grit score of 3.85. Last, the elementary school principals had a mean total grit score of 3.77.

Another demographic in the survey was age. The overall mean score for self-efficacy was 7.26 for all respondents. Furthermore, the most significant variance with demographical

groupings emerged in this area. The mean self-efficacy score for principals younger than 30 was 3.88, for a difference of 3.38 points compared to the group's overall mean self-efficacy. The data showed that as age increased, so did self-efficacy. The same trend occurred for grit: The older the principal, the higher the level of grit. For example, the mean grit score for all the respondents was 3.81, yet principals over the age of 60 had a mean grit score of 4.12. With regards to self-efficacy, the results are aligned to literature regarding levels of self-efficacy. Fisher (2014) presented research that indicated principals had the highest levels of self-efficacy as they entered the profession; self-efficacy then dropped during years 6 through 10 and increased thereafter but never to the level of year 1 of the principalship.

Chapter IV Summary

This chapter presented the processes used to prepare, conduct, and analyze the study data. The chapter included a review of the three research questions and the methods and rationale for the type of quantitative study. Next, the chapter presented the study's population and participants. The chapter included the study's instruments; the procedures, variables, and techniques for data analysis; and the processes, procedures, and findings. The study had strong reliability.

The second part of this chapter presented the findings. For Research Question 1, the data showed a moderately positive correlation between self-efficacy and grit. Specific to Research Questions 2 and 3, no significant differences existed between the groups of participants; therefore, the null hypotheses for these questions were accepted. Chapter 5 presents a richer summary of results, a discussion of the results, how these results relate to the review of literature, study limitations, implications of results for practice and recommendations for further research.

CHAPTER V

SUMMARY OF STUDY, DISCUSSION AND CONCLUSION

Introduction

Bandura's work provided the direction and purpose for this study. In particular, a quote by Bandura (1989) was the foundation used to set the meaning of the study: "People's self-efficacy beliefs determine their level of motivation, as reflected in how much effort they will exert in an endeavor and how long they will persevere in the face of obstacles" (p. 1176). This statement was the driving force for examining principal self-efficacy, grit, and persistence as measured by years in the role in this study.

Today's principals face many challenges (William & Welsh, 2017). Legislative actions have resulted in increased pressure on the principal role, which the COVID-19 pandemic exacerbated. In the 2019–2020 and 2020–2021 school years, principals found themselves in a peculiar position, where even the best-equipped principals second-guessed their ability and desire to persist in the role (Heubeck, 2021). This chapter presents an overview of the study, a summary and discussion of the findings, how the findings relate to previous research, the implications, and suggestions for future research.

Purpose of the Study

The purpose of the study was to examine if a relationship existed between the self-efficacy and grit of selected principals; the differences in self-efficacy and grit among the principals who did and did not participate in a principal development program; and the

differences in self-efficacy, grit, and persistence in the job role among selected principals with varying years of experience. The study contributed to the field of educational leadership.

Research Questions

The study had three guiding research questions:

1. What, if any, relationship exists between principal self-efficacy and grit in selected principals?

   H_0: No significant relationship exists between the self-efficacy and grit of selected principals.

2. What differences, if any, in self-efficacy and grit exist among principals who participate in a principal development program and those who do not?

   H_0: No significant relationship exists between the self-efficacy and grit among principals who participate in a principal development program and those who do not.

3. What, if any, differences in self-efficacy, grit, and persistence in the principalship exist among selected principals with varying years of experience?

   H_0: No significant relationship exists between self-efficacy, grit, and persistence in the principalship among principals with varying years of experience.

Participants

This study focused on principals in Texas public school districts who were part of Cohorts 1 and 2 of the Principal Pipeline. Collectively, 208 principals worked in the participating districts in various state regions, from the Lower Rio Grande Valley to the Dallas Metroplex. The geographical areas in the study resulted in a diversity of perspectives and student populations served.

All the principals in the participating districts received invitations to participate in the survey. The study had a total of 101 respondents. Of these respondents, 32 were men, 55 were men, and 14 did not indicate gender. Forty-seven respondents were elementary school principals, 18 were middle school or junior high principals, and 22 were high school principals. All the principals served in districts participating in the Principal Pipeline. Selection for the Principal Pipeline occurred independently of this study.

Instruments

The study included the PEGS, Grit-S, and additional demographic questions on district, gender, age, school level, years of experience as principal, years of experience as campus administrator, and participation in a principal leadership program separate and in addition to that provided to all principals in their districts. The second part of the survey included questions from the Principal Sense of Efficacy Scale (Tschannen-Moran & Gareis, 2004) and the Grit-S (Duckworth & Quinn, 2009). The Principal Sense of Efficacy Scale (Tschannen-Moran & Gareis, 2004) is a measure of principal efficacy in the areas of instructional leadership, campus management, and ethical leadership. Scholars have used the scale in multiple studies to measure principal self-efficacy. Grit-S (Duckworth & Quinn, 2009) measures grit via a series of items focused on consistency of interest and perseverance of effort.

Summary of Findings and Discussion

This subsection presents a summary and discussion of the findings related to the three research questions. A general discussion of the findings follows.

Reliability and Validity

The first part of the data analysis consisted of examining the study's reliability, which SPSS showed to be .94. Per Mills and Gay (2016), a reliability of .94 indicates a high level of reliability and that the data collected were reliable and valid measures of self-efficacy and grit.

Relationship Between Self-Efficacy and Grit

Data analysis commenced addressing each research question. For Research Question 1, the data showed a strong relationship between principal efficacy and grit. The study's statistics had a calculated Pearson correlation coefficient of .417, which showed a moderate relationship (Mills & Gay, 2016). The correlation coefficient had a positive direction, which indicates that as principal self-efficacy increases, so does grit. The mean scores for self-efficacy and grit between the male and female principals did not show significant differences, suggesting that gender-specific challenges lack significance and do not have to be accounted for when planning principal development.

Self-Efficacy and Grit and Professional Development Programs

For Research Question 2, no significant difference existed in the total self-efficacy and grit scores of the principals who did and did not participate in a principal leadership program, such as the Principal Pipeline. The principals in a principal leadership program had a mean total efficacy score of 7.40 and a total grit score of 3.83. The principals who did not participate in a principal development program had mean total principal efficacy scores of 7.26 on a scale of 1 to 9 and total grit scores of 3.80 on a scale of 1 to 5.

The data did not show the impact of principal participation in a structured professional development program. However, the Principal Pipeline is a relatively new opportunity for principals in cohort districts. A recommendation for future research is to follow the cohort of

principals to construct reliable longitudinal data. The Principal Pipeline is only in Year 2 of Cohort 2. The maximum time spent in a principal development program is approximately 2 years; therefore, the lack of longitudinal data is a limitation of this study. Additionally, in order to protect the identity of The Principal Pipeline, participants could not indicate is they were part of the specific cohort of principals in the program, Instead, principals were asked to indicate whether or not they participated in any principal development program separate and apart from that offered in their district.

Self-Efficacy, Grit, and Principal Persistence

For Research Question 3, the goal was to determine the differences among the principals with varying persistence as indicated by time in the role. As with Research Question 2, the MANOVA showed no significant relationship between self-efficacy, grit, and persistence in the principal role. However, after the MANOVA and extraction of data to address the research question, a second layer of data analysis commenced to find trends in the data, which emerged upon further review.

An additional review occurred as an extension of the data analysis of this study for the data on self-efficacy and grit for additional patterns outside of the research question data. No significant difference emerged in the self-efficacy and grit among principals of various levels (elementary, middle school or junior high, and high school). In contrast, a review of total principal efficacy showed that junior high and middle school principals had the highest level of self-efficacy and the highest average grit score. High school principals had the lowest average total self-efficacy score and the second-lowest average grit score. Lastly, elementary principals had the second-highest average of self-efficacy and the lowest average grit score.

Discussion of the Results in Relation to the Literature

Setting the stage and providing context to study findings requires a review of the state of education at the time of this study. The data collection phase for this study occurred in the Spring 2021 semester. The academic year that commenced in Fall 2020 and concluded in Spring 2021 presented extraordinary challenges to leaders due to the impact of the COVID-19 pandemic on school systems and educational leadership. The survey in this study had a 48.56% response rate; while not an ideal percentage, it aligned with the most recent literature on principal demands during the pandemic years. McLeod and Dulsky (2021) focused on leadership during the pandemic and described the demands of this unparalleled time in leadership due to the magnitude of stress faced by school leaders. Furthermore, educational leaders may find themselves with little to no time for activities outside of their role. McLeod and Dulsky examined 43 school organizations worldwide and found common themes, regardless of geographic location. McLeod and Dulsky determined that crisis management was not an area of strength for principals. In addition, they found that the length of time in which the unprecedented stress occurred had an adverse impact on school leaders and their ability to manage the demands of the principal role.

As implied by McLeod and Dulsky (2021), principals must maximize every minute of their days. Principals may not have time to expend on items unnecessary for school operations. Furthermore, the job demands could obstruct their ability to engage in activities outside of the role, including tasks not directly related to the position's demands.

Of the districts invited to participate in this study, three declined. District-level employees from two of these districts indicated that the principals felt overwhelmed by the role's demands. They preferred not to participate to avoid adding to the pressures they already faced.

The findings of this study had promising findings related to the efficacy of instructional leadership. The Principal Efficacy Scale (Tschannen-Moran & Gareis, 2004) had three subscales: instructional leadership, management leadership, and moral leadership. Collectively, all the principal respondents had the highest mean score in the area of instructional leadership. The overall mean for instructional leadership was 7.45. Moral leadership had the second-highest mean score of 7.30, followed by management of leadership with a mean score of 6.97. The mean score of instructional leadership suggests that the principal respondents had the highest efficacy in this area. Furthermore, this finding appears hopeful for educational leadership. As efficacy in instructional leadership increases, the likelihood of burnout and extreme exhaustion decreases (Skaalvik, 2020).

Relationship Between Self-Efficacy and Grit

This study produced results that aligned with the extant research on self-efficacy and grit. Bandura (1989) found that the ability to persist through challenges indicates the level of self-efficacy. Bandura indicated that individuals faced with unfamiliar situations look to their inner strength and belief in their abilities (i.e., self-efficacy) to rise above adversity and have the grit to persist during challenges. The data analysis showed that as self-efficacy increases, so does grit. Therefore, the results of this study aligned with the literature suggesting a positive correlation between self-efficacy and grit. People who persist through adversity gain a stronger sense of self-efficacy (Encyclopedia of Human Behavior, 1994).

Scholars have tended to study principal self-efficacy and grit independently. Thus, this study focused on the relationships between self-efficacy, grit, and persistence in the principal role. The findings showed that self-efficacy and grit had a direct relationship and that as one increases, so does the other. This finding, coupled with Bandura (1986), could contribute to

principal development, as leaders with greater self-efficacy are more likely to persist in the role due to high levels of grit. Moreover, Bandura found that individuals with high self-efficacy also had higher levels of persistence because they believed they could face and overcome challenges. Those who oversee principal development could use these findings to develop support systems for principals.

In the context of public school systems, scholars could view principal development through the lens of this study's findings to foster cultures where high expectations are the norm for every leader. Principals who do not believe in their abilities may avoid setting rigorous goals they fear they cannot attain. Furthermore, the findings of this study aligned with Duckworth and Quinn (2009), showing that identifying individuals with low levels of grit is an opportunity to plan personal development.

The landscape of modern school systems and the research presented in this study indicate that principals face immense levels of stress. School systems can address the projected principal shortages by assessing self-efficacy and grit to inform individualized principal development programs. Principal supervisors should consider infusing practices that contribute to healthier self-efficacy into principal development programs. According to Louis et al. (2010), principal supervisors should create a culture of collaboration, as principals who work alongside fellow principals and supervisors are more able to navigate the adversities of the role. Such practices could be a way to change the landscape of principal support one step at a time.

Self-Efficacy, Grit, and Professional Development Programs

Research Question 2's findings indicate that participation in a professional development program outside of the typical district-provided development does not impact principal efficacy and grit. However, a lack of individualized professional development is one of the leading causes

of principal departure from the role (Zalaznick, 2020). The NASSP (2020) found that one out of every five principals leave the role, with the top reason being inadequate professional development and support.

Probable causes for this study's misalignment with the extant research on participation in principal development programs, particularly the Principal Pipeline. The first cohort of the Principal Pipeline commenced in Fall 2018. Thus, it is a challenge to discern the true impact of this program due to its lack of longevity. Furthermore, protecting the identity of principals who responded to the survey required excluding explicit questions about Principal Pipeline participation. Per the NASSP (2020) report, additional research in educational leadership is needed because of the worldwide pandemic impact on study the results. In addition, a need exists for research on principals participating in the principal development aspect of Principal Pipeline.

Additionally, the findings of this study aligned with the research on grit and Gladwell's (2008) 10,000-hour rule, which states that skill proficiency requires approximately 10,000 hours of practice. During a keynote at a 2018 summit, Duckworth shared that dedicating 10,000 hours to gain proficiency in a skill is just the beginning. After attaining proficiency, one must apply the skill and commit to practicing it (Jacobson, 2018).

Applying the 10,000-hour rule to the findings of Research Question 2 suggests that a possible reason for the data was that principals in the Principal Pipeline had not yet engaged in 10,000 hours of practice. The principals may, at some point, reach 10,000 hours of practice. However, the Principal Pipeline is still a new program for Texas educational systems. Therefore, the survey may have presented such questions prematurely based on the timeline of the program's existence. The participants had not yet engaged in the 10,000 hours needed for

proficiency and may not have had sufficient time to practice and apply their learning. An extension of this study could focus on implementing the skills principals had acquired during their learning.

Self-Efficacy, Grit, and Principal Persistence

Fisher (2014) mentioned that self-efficacy levels might fluctuate as principals persist in the role. After studying patterns of principal self-efficacy, Fisher found that principals had the highest level of self-efficacy during the first year of the principalship and that efficacy decreased until the sixth year. However, Fisher (2014) noted a gradual increase in self-efficacy until the 10th year, after which the principals leveled off at a more desirable level than Years 2 through 6. This finding indicates the need for further research on the influencing factors of self-efficacy. This study did not include the influencing factors of self-efficacy due to the expansive factors that would have required examination.

Answering Research Question 3 led to assumptions about self-efficacy, grit, and principal persistence. First, the findings showed that school level did not significantly impact efficacy, grit, and persistence in the principal role. The data indicated a slightly lower efficacy and grit at the high school level, but the difference lacked significance. Thus, an implication of the study for principal development is that each level of principalship has unique struggles. Whether they were principals at high schools, junior high or middle schools, or elementary schools, the participants showed no significant difference in self-efficacy and grit.

There was also no significant difference in the leadership gaps and persistence of principals serving campuses with varied levels of students; this finding aligned with the NASSP (2019). Thus, district leaders designing principal development programs to support long-term

persistence in the role should realize that principals at every level could benefit from targeted development for self-efficacy and grit.

As in Research Question 2, the importance of practice and time to apply learning was a finding of Duckworth (2016). People gain proficiency in skills after 10,000 hours of practice, which correlates with approximately 417 days of concentrated training of the skill. The average Texas public school systems school year has approximately 176 instructional days. Thus, principals need a minimum of 2.5 years to reach proficiency with the skills for the principalship. Aside from the time spent in the role, principals also require appropriate development to acquire the skills needed to be successful.

Numerous variables require consideration in the 10,000-hour equation for principals. However, the findings of this study suggest that more hours and years in the role could contribute to higher levels of grit. Grit and self-efficacy have a positive relationship; thus, the same applies to levels of efficacy. According to Tschannen-Moran and Gareis (2004),

> "Principals' efficacy beliefs influence the level of effort and persistence they put forth in their daily work, as well as their resilience in the face of setbacks. It is not enough to hire and retain the most capable principals—they must also believe that they can successfully meet the challenges of the task at hand" (p. 582).

Therefore, the significance of this study is that it could have an influence on principal development and preparation.

The study's findings indicate that efficacy and grit have a direct relationship and increase in uniform increments. Additionally, achieving higher levels of self-efficacy and grit requires principals to have the time needed for instances of mastery of experiences. Mastery of experiences enables principals to become more confident leaders who believe in their abilities to

handle the demands and responsibilities of the role. A recommended extension of this study is to examine the influence of these findings on principal residency programs. The time spent in a principal residency could contribute to higher levels of self-efficacy and grit in new principals for increased persistence in the role.

The study aligned to previous research; however, one finding was particularly relevant to this and recommended further research. The data suggest that as principals gain more experience and mature in age, they reach higher levels of self-efficacy and grit. Considering the lifespan of principals regarding development could be a consideration when designing individualized experiences for professional learning.

Limitations

As stated previously in Chapter I of this study, a limitation of this study is that the sample included the principals who chose to participate. While the response rate was acceptable for a quantitative research study, a higher response rate would have strengthened the study. Additionally, responses were influenced by the personal perceptions and the respondents' level of understanding of self-efficacy and girt. All responses were solely based on the discretion and judgement of the respondents. As well the inability to explicitly name programs included in *The Principal Pipeline* made it difficult to delineate findings as they relate to particular structures and programs used for principal development. Lastly, this study did not include qualitative research that would allow for principals participating in The Principal Pipeline to describe any changes in their leadership development.

Implications of Results for Practice

Based on the findings of this study and the literature review presented in Chapter II and this study's findings, a set of implications for practice have been devised for school systems to

consider. The implications are grounded on research that indicates that over the past twenty years, “leadership preparation programs have failed to adequately change their practices to align with the modern principal role” (Pannell and McBrayer, 2020, p.29); this failure to meet the needs of the modern-day principal have been a driving force in the implications and future research of this current study.

The implications for practice are described below and are presented in two subsections which include principal preparation and recruitment and principal retention. Under principal preparation and recruitment will be recommendations regarding principal preparation programs and considerations for hiring practices. The subsection regarding principal retention will include recommendations including new principal induction programs, rethinking principal development and leadership coaching for principals.

Principal Preparation & Recruitment. In a recent report released by the National Association of Secondary School Principals (NASSP), it was stated that a study conducted in October through November 2021 yielded results indicating that only about one-third of principals are satisfied with their current role; this is a significant dip from the previous level of satisfaction that was at 63% at the time of a 2019 study (NASSP, 2021). Included in this same study was also a finding that less than a quarter of principals have the support they need to be successful in their role (NASSP, 2021). Based on these study findings, it merits the need for educational systems to rethink principal preparation and hiring practices.

The current body of literature speaks to the need for more relevant practices in principal preparation and a need for collaboration between school districts and universities to transform this space. Panell et al. (2022) state that “decades of research point support this notion of a leadership gap” (p.31) created by the lack of effective practices in university principal

preparation program; furthermore, Pannell and McBrayer (2020) noted, “nearly two-thirds of principals believe that traditional graduate programs are out of touch with today’s realities” (p.97) and the current needs of school principals.

The largest gap in principal preparation is the bridge between theory and practice. Oliver, Gordon and Oliver (2018) mention learning through lecture is the least effective teaching strategy for principal preparation; instead of being so heavy on lecture, Oliver at al., recommend a balance of lecture and hands on learning to allow aspiring principals to comprehend the magnitude of the role and to learn in an environment where personal reflection and mastery learning is at the forefront. This research is perfectly aligned with Bandura’s concept that the most powerful source of self-efficacy is mastery learning (Bandura, 1977). At the onset of this current study, statistics specific to principal turnover were presented. Perhaps the greatest implication of this study’s findings is the guidance that can be offered to adequately prepare principals for the role to result in greater persistence.

If the research presented regarding principal preparation is so, it is important to revisit the findings of question 1 of this study. In the study findings, the Pearson correlation coefficient was found to be moderate (Mills & Gay, 2016) and was calculated to be .417. As a result, this finding established that as self-efficacy increases so does grit. For the purpose of this study, grit was framed as being measured by persistence in the role based on the years of experience as principal. Knowing that self-efficacy and grit was indicated by persistence in the role of principal, the first recommendation of practice is for principal preparation programs to strengthen their programs by including more relevant activities to the role of principal and to consider the inclusion of training on the understanding of and the development of self-efficacy.

The reason for this recommendation of practice stemmed from the pieces of work. The first piece was the work of Airola et al., 2014 & Hoerr, 2017 where it was indicated a higher level of efficacy and grit will influence persistence in the role. Furthermore, persistence in the role as measured by years as principal becomes significant to the world of education when it is linked back to the concept of mastery experiences as described by Bandura (1977). Bandura stated that mastery experiences was the most influential source of self-efficacy. Therefore, it can be said that when leaders successfully occupy the principal role for a longer period of time, there is a greater likelihood that they will also have a greater level of mastery learning. If the country's educational system desires to avoid the projected leadership shortfall in the years to come, adequately preparing principal candidates to understand self-efficacy and grit may contribute to a more advanced level of preparation resulting in greater persistence in the role.

The second influential piece of work influencing this implication of practice was a study conducted by Pannell, McBrayer, Dickens, Skeleton & Fallon (2022). Pannell et al. (2022) established the need for a more intentional hands-on approach to principal preparation that brings school district and universities together to create principal preparation programs comprised of building the knowledge of effective leadership while also preparing them to have a mindset conducive to the role of the principal. Their study conducted with practicing principals indicated the "learning by doing" (Pannell et al., 2022, p. 37) approach to principal preparation was the most impactful method for preparing leaders to transition into the role of principal.

The second implication of practice in the subsection of principal preparation and recruitment is focused on principal hiring processes. As was seen in the literate review of this study, individuals with a high level of grit are better able to navigate through challenges and persist in the face of adversity (Duckworth et al., 2007). Based on the results to the NASSP

(2021) article, it becomes evident that the projected principal shortage is due in part to the overwhelming challenges being faced by principals as a result of the global pandemic generated by the spread of the COVID-19 virus.

When asked if the pandemic impacted the level of challenge for principals, close to half of the principals indicated that the pandemic had a profound impact on the demands and challenges principal face (NASSP, 2021). The reality as painted by this article is that to persist in the role of principal, these leaders must be adequately equipped to overcome the challenges they will face. As such, in alignment with relative research and study results it is recommended hiring practices for principals incorporate some method of gathering an indication regarding the level of grit a principal candidate possesses. Methods for gaining a better understanding of a principal candidates' level of grit may include questions developed for interviews and a scoring rubric that will measure responses provided during the interview process. The data collected regarding grit may be used to further inform whether the candidate has the grit and persistence to succeed in the role.

Principal Retention. The second subsection of implication of results for practice are centered around principal retention. In the review of literature and the findings of this study, it was learned that principals are at the highest level of self-efficacy during their first year in the role (Fisher, 2014). The findings of question 3 of this study also supported this idea by establishing principals in their first three years on the job showed the highest level of self-efficacy. Knowing that self-efficacy is highest in year one of the principalship, principal preparation programs should consider embedding coursework that incorporates the building of self-efficacy and grit for principal candidates. As well, districts should take a proactive approach to preparing new principals for the decreased level of self-efficacy to avoid disillusionment and

to minimize loss of leadership confidence. Therefore, the recommendations below are presented as possible solutions to increase principal retention.

Beginning with new principal induction**,** it is recommended these programs include an intentional focus on development of higher self-efficacy during the first few years of the principalship. In doing so, presenting this information at the onset of the principalship may provide a new principal with a healthier understanding of the continuum of leadership self-efficacy; this may be a mechanism to avoid a negative internalization of this natural progression. When faced with the challenges of the role, new principals may better understand that their feelings and emotions are a natural part of the process as opposed to thinking they are not adequately equipped to take on the demands of the role.

The second implication of results for practice under principal retention relate directly to the reimagination of principal development. A current trend in education revolves around blended learning approaches. Knowles (1968) contributed to the body of research around adult learning theories and indicated that adults bring their personal experiences to learning and are motivated to learn when there is an immediate application of their learning in their daily lives. Additionally, he also indicated adult learners will maximize learning when they have some degree of control over learning content because their level of engagement in learning is highly dependent on the relevance of the topics they are learning. Adults needs to be engaged in learning that will impact their lives and when they can see a direct connection to their roles (Knowles, 1984).

If guided by the literature around adult learning theories, this study's implications for practice include creating a blended learning approach to principal development. In this approach, principals would be given voice and choice in their selection of development. District leaders

who oversee principal development should devise a plan that will consist of varied types and levels of principal development topics and opportunities and as guided by data collected regarding measurable outcomes of principal performance. When given voice and choice in their learning, the tailor-made development plans will address individual needs based on performance data and the lenses of the principal and their supervisor. With this type of approach, school systems will shift development to create a more personalized approach to principal development. Adult learning theory tells us learning must be relevant; providing voice and choice may address this.

The third and final recommendation related to principal retention ties into Bandura's verbal persuasion as a source of self-efficacy (Bandura, 1977). Bandura (1977) mentions that verbal persuasion can help to increase self-efficacy by building a greater level of confidence if the persuader is adequately equipped. In chapter II of this study, leadership coaching was introduced. In the introduction of leadership coaching, the research alluded to outcomes of a study conducted by Ladegard and Gjerde (2014) in which it was found that leadership coaching enables a coach to meet their mentee where they are in their current leadership development. Leadership coaching gives way to social persuasion geared toward the individual's personal challenges. Therefore, the final recommendation for an implication of the study is that district should consider a framework by which principals can participate in leadership coaching beginning with curriculum for principal preparation programs. This inclusion in principal development may yield more persistence in the role because of the individualization of support.

In conclusion, principal preparation and retention is critical because of what was learned from Bandura's research on the sources of efficacy (1977). He stated that mastery learning was the most influential source of building self-efficacy and can only be gained through time. One's

ability to have mastery experiences is coupled with persisting through challenges and fully ascertaining one's true ability to overcome adversity. In regard to the role of principal, Murphy and Johnson (2016) stated that there is an increased self-efficacy and confidence in abilities when principals persist through challenges because they draw on the feelings of success as a way of remaining committed to the role and Mascall & Leithwood (2010) stated that effective principals need to dedicate 5 to 7 years at a campus in order to have sustainable change. If educational systems want to avoid the projected leadership downfall, the implications of study for practices may help to inform system and contribute to the body of literature.

Recommendations for Further Research

The data collection of this study occurred in the Spring 2021 semester during one of the most demanding times for principals and school system leaders. McLeod and Dulsky (2021) referred to the COVID-19 pandemic as an unparalleled time in leadership because of the magnitude of demands on school leaders. Furthermore, principals experience challenges to their persistence in the role because of the prolonged time they have had to deal with the unbelievable pressures of the pandemic. Bagwell (2020) stressed that educational system leaders have just begun to witness the pandemic's impact on leadership. Future research should focus on redefining leadership for the post pandemic role of principal and the influence of the pandemic on principal retention rates.

This study occurred with integrity and intentionality and produced results dependent on the principals who agreed to participate in a time of unprecedented demands for principals (McLeod & Dulsky, 2021). A recommendation is to research how to introduce self-efficacy and grit in principal development programs to produce higher levels of persistence and address the looming principal shortage. A NASSP (2020) poll indicated that approximately 45% of

principals contemplate leaving the profession because of the overwhelmed state of educational leaders during the pandemic. Furthermore, a quarter of the 45% indicated that they contemplated leaving before the pandemic (NASSP, 2020).

The literature review in Chapter 2 showed the need to examine self-efficacy, grit, and persistence as three constructs with an impact on the overall success of school systems due to their influence on leadership behaviors. Principals with high self-efficacy and grit are better able to make sound decisions to elevate their campuses' success. Principals' confidence flows from their offices into the classrooms where students learn (Wahlstrom et al., 2010). The goal of this study was to understand the tenets of principal development to advance the work of school leadership. The following section presents recommendations for extending this study and contributing to the knowledge of principal development, self-efficacy, grit, and persistence.

This study found a positive and moderate correlation between self-efficacy and grit. Similarly, a May 2020 NASSP poll indicated the world of education still lacks knowledge of the true impact of the prolonged state of the pandemic on principal retention. According to Bagwell (2020), educational leadership is on the brink of being completely redefined due to the challenges with academic gaps and the social-emotional support needed for schools. Furthermore, these challenges and changes could also result in redefining the role of the principal. As a result, the following section presents three recommended extensions to this research.

This study's findings on self-efficacy and grit and the NASSP poll have indicated the need for research on effective principal development practices for increasing self-efficacy and grit. The first suggested extension of this research is to conduct a study to understand how to curb principal shortages and principal development practices for increasing self-efficacy and grit.

This suggested extension aligns with research by Fisher (2010), who stated that principals with high self-efficacy are better able to persist in the role, overcome adversity, and display greater longevity in the position. As such, the extensions of this study could be proactive approaches to preparing principals for their roles, leading to increased tenure and improved development.

Similarly, Murphy and Johnson (2016) indicated that principals with high levels of grit could persist through challenging times. In addition, persistence correlates with confidence and self-efficacy. Therefore, the suggested extension could be a way to improve principal retention and combat the projected principal shortage.

This study centered around the Principal Pipeline because it included districts with a focus on principal development. The program contains the premise that a state-wide, scalable model for principal development could produce more effective principals who can persist in the role. According to Wahlstrom et al. (2010), a principal transition costs a district approximately $75,000 in direct and indirect costs. Additionally, a cultural adjustment to a new leader and an implementation dip is likely to be seen during principal transition. Consequently, reducing principal turnover through adequate preparation could be a way to achieve higher-performing schools in Texas public school systems.

Another suggested extension of this study is to conduct a longitudinal analysis on the impact of The Principal Pipeline that would include quantitative and qualitative data. Levin and Bradley (2019) contributed to the current body of knowledge regarding principal persistence in the role and identified lack of adequate professional development as being the greatest influencing factor for principals' departure from the role. However, the results of question 2 of this study merit a deeper exploration because of the misalignment with the research.

In this study, results to question 2 indicated an insignificant difference in self-efficacy and grit of principals participating in a structured principal development program sperate and apart from that offered in their district. The descriptive statistics used for results of question 2 resulted in a mean self-efficacy score of 7.36 for principals who participated in a structured principal development program separate and apart from that provided in their district. The mean self-efficacy score for those who did not participate in such a program was calculated as being 7.26. The goal of this principal development program is to advance principals' skillsets and abilities to build leadership capacity at their campuses. The Principal Pipeline development curriculum provides principals with opportunities to refine their skills, identify problems of practice, and channel the strengths of campus leaders to find solutions. Approaching problems of practice in such a manner could be a way to alleviate the burdens on principals and provide an extensive support system so they do not have the sole burden of campus success. A longitudinal study on the impact of this principal development program is recommended as an extension to this study in order to conduct a more enriched understanding it may have on self-efficacy, grit and persistence as measured by years in the role of principal.

Another extension of this study is to interview the participants of The Principal Pipeline to understand the impact of participation on principal self-efficacy, grit, and persistence. Quantitative data may not show the emotional impact of development programs and this study reinforced that much of the research on Bandura's concept of self-efficacy has focused on personal perceptions. Individual interviews could provide a deeper understanding of the impact of participation on principals.

Lastly, Versland (2016) suggested that principals can only set rigorous goals and persist in challenges by building their self-efficacy by transferring their skills from one scenario to

another. The final suggested extension of this study is to research how to build principal self-efficacy and grit in principal preparation programs. Addressing these skills in principal preparation could better prepare principal candidates and improve their persistence.

The data of this study did not show that supplemental principal development influences self-efficacy and grit; however, the literature review showed that self-efficacy and grit impact the tenets of successful principalship. School system leaders could use the findings and implications of this study to design principal development. In particular, leaders could draw upon Bandura's sources of self-efficacy to better position educational leaders to meet the post pandemic challenges of opening schools in Fall 2021.

The COVID-19 pandemic has impacted all U.S. educational systems and educational leadership, and that impact will likely continue for decades. The research has shown that instructional leadership is a critical area for the future of the role of principal. Bagwell (2020) indicated that individuals have only begun to see a fraction of the influence of the pandemic on school systems and their leaders. Moreover, Bagwell (2020) mentions the importance of modeling persistence during times of adversity; he goes on to encourage more extensive research on how to better understand the role of adaptive leadership during this time of rapid change and evolution of school systems. Continued focus on this topic will enable school systems to ascertain the true impact of the pandemic on educational leadership.

Thus, a need exists to understand how to support leaders of teachers. Understanding how to effectively deliver principal development to increase principals' efficacy and grit could be a moral obligation of researchers. Democracy exists based on the ability to educate people who advance the country's development. Therefore, thriving educational systems require understanding and refining approaches to build the skillsets of school leadership.

Conclusion

This study contributed to the body of knowledge on principal self-efficacy and grit and their influence on principal persistence. In today's world, principals face extreme demands due to the role's evolution and the COVID-19 pandemic. If the results of this study impact even one principal or one district, the overarching purpose will have been realized. Society should show respect to principals and school leaders for shaping generations of students, regardless of whether they served in the role in the early 1900s or present-day, because leadership matters.

Education is a noble profession with a widespread impact. The findings of this study showed the value of building principal self-efficacy. Bandura (1993) asserted that people's ability to perform at high levels is greatly influenced by belief in their abilities, which carries them through times of adversity. Principals do not obtain self-efficacy and grit by chance. Those responsible for principal development must develop and nurture principals' self-efficacy and grit. Some of the most valuable time spent in school systems is the time dedicated to building leaders of schools.

REFERENCES

Airola, D. T., Bendtson, E., Davis, D., & Peer, D. K. (2014). Principals' sense of efficacy: The influences of the Arkansas Leadership Academy. *Journal of Educational Administration, 52*(6), 754–774. https://doi.org/10.1108/JEA-08-2013-0089

Alhadabi, A., & Karpinski, A. C. (2020). Grit, self-efficacy, achievement orientation goals, and academic performance in university students. *International Journal of Adolescence and Youth, 25*(1), 519–535. https://doi.org/10.1080/02673843.2019.1679202

Alvoid, L., & Black, W. L., Jr. (2014, July). *The changing role of the principal: How high-achieving districts are recalibrating school leadership*. Center for American Progress. http://files.eric.ed.gov/fulltext/ED561099.pdf

Arlestig, H., Day, C., & Johansson, O. (Eds.). (2001). *A decade of research on school principals* (Studies in Educational Leadership, Vol. 21). Springer International Publishing.

Bagwell, J. (2020). Leading through a pandemic: Adaptive leadership and purposeful action. *Journal of School Administration Research & Development, 5*(S1), 30–34. https://doi.org/10.32674/jsard.v5iS1.2781

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, *4*(3), 359–373. https://doi.org/10.1521/jscp.1986.4.3.359

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*(9), 1175–1184. https://doi.org/10.1037/0003-066X.44.9.1175

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117–148. https://doi.org/10.1207/s15326985ep2802_3

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman and Company.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*(1), 1–26. https://doi.org/10.1146/annurev.psych.52.1.1

Bandura, A. (2008). An agentic perspective on positive psychology. In S. J. Lopez (Ed.), *Positive psychology* (Vol. 1, pp. 167–196). Praeger.

Bartanen, B., Grissom, J. A., & Rogers, L. K. (2019). The impacts of principal turnover. *Educational Evaluation and Policy Analysis, 41*(3), 350–374. https://doi.org/10.3102/0162373719855044

Bass, B. (1985). *Leadership and performance beyond expectations*. The Free Press.

Bauer, S. C., & Silver, L. (2018). The impact of job isolation on new principals' sense of efficacy, job satisfaction, burnout and persistence. *Journal of Educational Administration, 56*(3), 315–331. https://doi.org/10.1108/JEA-07-2017-0078

Berkovich, I., & Eyal, O. (2015). Educational leaders and emotions: An international review of empirical evidence 1992–2012. *Review of Educational Research, 85*(1), 129–167. https://doi.org/10.3102/0034654314550046

Boyce, J., & Bowers, A. J. (2016). Principal turnover: are there different types of principals who move from or leave their schools? A latent class analysis of the 2007–2008 Schools and Staffing Survey and the 2008–2009 Principal Follow-Up Survey. *Leadership and Policy in Schools, 15*(3), 237–272. https://doi.org/10.1080/15700763.2015.1047033

Burns, J. M. (1978). *Leadership*. Harper & Row.

Bush, T., & Glover, D. (2014). School leadership models: What do we know? *School Leadership & Management*, *34*(5), 553–571. https://doi.org/10.1080/13632434.2014.928680

Cansoy, R., & Parlar, H. (2018). Examining the relationship between school principals' instructional leadership behaviors, teacher self-efficacy, and collective teacher efficacy. *International Journal of Educational Management, 32*(4), 550–567. https://doi.org/10.1108/IJEM-04-2017-0089

Carelton, E. L., Barling, J., & Trivisonna, M. (2018). Leaders' trait mindfulness and transformational leadership: The leaders' positive affect and leadership self-efficacy. *Canadian Journal of Behavioural Science, 50*(3), 185–194. https://doi.org/10.1037/cbs0000103

Cavazos, J. V., Hinojosa, Y., & Karaman, M. A. (2018). Evaluation of the Short Grit Scale (Grit-S). *The Journal of Counseling Research and Practice, 3*(1), 31–42.

Caza, A., & Posner, B. Z. (2019). How and when does grit influence leaders' behaviors? *Leadership & Organizational Development Journal, 40*(1), 124–134. https://doi.org/10.1108/LODJ-06-2018-0209

Cox. (2015). Coaching and Adult Learning: Theory and Practice. New Directions for Adult and Continuing Education, 2015(148), 27–38. https://doi.org/10.1002/ace.20149

Coyle, D. (2018). *The culture code: The secrets of highly successful groups*. Bantam Books.

Cuban, L. (1998). *The managerial imperative and the practice of leadership in schools*. SUNY Press.

Dale, G., Sampers, D., Loo, S., & Green, C. S. (2018). Individual differences in exploration and persistence: Grit and beliefs about ability and reward. *PloS one*, *13*(9), Article e0203131. https://doi.org/10.1371/journal.pone.0203131

DeWitt, P. M. (2017). *School climate: Leading with collective efficacy*. Corwin Press.

Dimmock, C., & Hattie, J. (1996). School principals' self-efficacy and its measurement in a context of restructuring. *School Effectiveness and School Improvement*, *7*(1), 62–75. https://doi.org/10.1080/0924345960070103

Duckworth, A. (2016). *Grit: The power of passion and perseverance*. Scribner.

Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (Grit–S). *Journal of Personality Assessment, 91*(2), 166–174. https://doi.org/10.1080/00223890802634290

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

Education World. (2016, November 18). Principals as leader-managers. https://www.educationworld.com/a_admin/admin/admin451.shtml

Erekson, K. A. (2010). Book review: To get a better school system: One hundred years of education reform in Texas. *The Journal of Southern History, 76*(4), 1033–1034.

Eskreis-Winkler, L., Shulman, E. P., Beal, S. A., & Duckworth, A. L. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology, 5*, Article 36. https://doi.org/10.3389/fpsyg.2014.00036

Farley-Ripple, E. N., Raffel, J. A., & Welch, J. C. (2012). Administrator career paths and decision processes. *Journal of Educational Administration, 50*(6), 788–816. https://doi.org/10.1108/09578231211264694

Federici, R., & Skaalvik, E. (2012). Principals' efficacy: Relations with job autonomy, job satisfaction, and contextual constraints. *School Psychology of Education: An International Journal, 15*(3), 295–320. https://doi.org/10.1007/s10212-011-0102-5

Feldman, D. B., & Kubota, M. (2015). Hope, self-efficacy, optimism, and academic achievement: Distinguishing constructs and levels of specificity in predicting college. *Learning and Individual Differences, 37*, 210–216. https://doi.org/10.1016/j.lindif.2014.11.022

Fisher, Y. (2010). The sense of self-efficacy of aspiring principals: Exploration in a dynamic concept. *Social Psychology of Education, 14*(93), 93–117. https://doi.org/10.1007/s11218-010-9136-9

Fisher, Y. (2014). The timeline of self-efficacy: Changes during the professional life cycle of school principals. *Journal of Educational Administration, 52*(1), 58–83. https://doi.org/10.1108/JEA-09-2012-0103

Fisher, Y. (2020, July 2). *Self-efficacy of school principals*. In *Oxford research encyclopedia of education*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190264093.013.910

Flaming, N., & Granato, I. R. (2017, March 31–April 2). *Personality and gender: Grit differences in undergraduates* [Conference presentation]. Southwestern Psychological Association conference, Oklahoma City, OK, United States.

Friedman, I. A. (2020). The competent school principal: Personality traits and professional skills. *Psychology, 11*(6), 823–844. https://doi.org/10.4236/psych.2020.116054

Gallagher, M. W., Marques, S. C., & Lopez, S. J. (2017). Hope and the academic trajectory of college students. *Journal of Happiness Studies, 18*(2), 341–352. https://doi.org/10.1007/s10902-016-9727-z

Gardner, J. (1993). *On leadership*. Simon & Schuster.

Gladwell, M. (2008). *Outliers: The story of success*. Little, Brown and Company.

Goff, P. T., Goldring, E., & Bickman, L. (2014). Predicting the gap: Perceptual congruence between American principals and their teachers' ratings of leadership effectiveness. *Educational Assessment, Evaluation and Accountability, 26*(4), 333–359. https://doi.org/10.1007/s11092-014-9202-5

Gordon, J. (2017). *Power of positive leadership: How and why positive leaders transform teams and organizations and change the world*. John Wiley & Sons.

Gordon, J., & Gordon, K. (2020). *Relationship grit: A true story with lessons to stay together, grow together and thrive together*. John Wiley & Sons.

Gulmez, D., & Isik, A. N. (2020). The correlation between school principals' self-efficacy beliefs and leadership styles. *International Journal of Educational Sciences, 12*(1), 326–337. https://doi.org/10.15345/iojes.2020.01.020

Halinger, P. (1992). The evolving role of American principals: From managerial to instructional to transformational leaders. *Journal of Educational Administration, 30*(3), 35–49. https://doi.org/10.1108/09578239210014306

Hannah, S. T., Avolio, B. J., Luthans, F., & Harms, P. D. (2008). Leadership efficacy: Review and future directions. *The Leadership Quarterly, 19*(6), 669–692. https://doi.org/10.1016/j.leaqua.2008.09.007

Hesbol, K. A. (2019). Principal self-efficacy and learning organizations: Influencing school improvement. *The International Journal of Educational Leadership Preparation, 14*(1), 33–51. http://files.eric.ed.gov/fulltext/EJ1218932.pdf

Heubeck, E. (2021, August 9). Teachers feel anxious about the new school year. How principals can help. *EducationWeek.* https://www.edweek.org/leadership/teachers-feel-anxious-about-the-new-school-year-how-principals-can-help/2021/08

Hillman, S. J. (1986, April 16–20). *Measuring self-efficacy: Preliminary steps in the development of a multi-dimensional instrument* [Paper presentation]. Annual Meeting of the American Educational Research Association, San Francisco, CA, United States.

Hinkle, D. E., Wiersman, W., & Jurs, S. G. (2003). *Applied statistics for behavioral sciences* (5th ed.). Wadsworth Cengage Learning.

Hoerr, T. R. (2017, June 1). Educators need grit too! *Educational Leadership, 74*(9), 60–64. https://www.ascd.org/el/articles/educators-need-grit-too

Honig, M. I., & Rainey, L. R. (2012). Autonomy and school improvement: What do we know and where do we go from here? *Educational Policy, 26*(3), 465–495. https://doi.org/10.1177/0895904811417590

Hunt, K. (2016, December 6). PISA global education rankings. CNN. https://www.cnn.com/2016/12/06/world/pisa-global-education-rankings/index.html

Imants, J. G., & De Brabander, C. J. (1996). Teachers' and principals' sense of efficacy in elementary schools. *Teaching and Teacher Education*, *12*(2), 179–195. https://doi.org/10.1016/0742-051X(95)00053-M

Institute for Education Leadership. (2008). Succession planning for Ontario schools and school boards.

Institute for Education Leadership. (2013). The Ontario Leadership Framework: A school and system guide to putting Ontario's leadership framework into action.

Jacob, R., Goddard, R., Kim, M., Miller, R., & Goddard, Y. (2015). Exploring the causal impact of the McREL Balanced Leadership Program on leadership, principal efficacy, instructional climate, educator turnover, and student achievement. *Educational Evaluation and Policy Analysis, 37*(3), 314–332. https://doi.org/10.3102/0162373714549620

Jayapragas, P. (2016). Leaders in education program: The Singapore model for developing effective principal-ship capability. *Current Issues in Comparative Education, 19*(1), 92–108. http://files.eric.ed.gov/fulltext/EJ1128409.pdf

Kafka, J. (2009). The principalship in historical perspective. *Peabody Journal of Education, 84*(3), 318–330. https://doi.org/10.1080/01619560902973506

Kelleher, J. (2016). You're OK, I'm OK. *Phi Delta Kappan, 97*(8), 70-74. https://doi.org/10.1177/0031721716647025

Kuehlem, M. (2004). Education reforms from Gilmer-Aikin to today. *Texas Public Schools: 1854–2004, Sesquicentennial Handbook*, 60–71. https://www.historicschools.org/assets/documents/tps_gilmer_aikin.pdf

Ladegard, G., & Gjerde, S. (2014). Leadership coaching, leader role-efficacy, and trust in subordinates. *The Leadership Quarterly, 25*(4), 631–646. https://doi.org/10.1016/j.leaqua.2014.02.002

Leithwood, K., & Jantzi, D. (2008). Linking leadership to student learning: the contributions of leader efficacy. *Educational Administration Quarterly, 44*(4), 496–528. https://doi.org/10.1177/0013161X08321501

Levin, S., & Bradley, K. (2019, March). *Understanding and assessing principal turnover*. Learning Policy Institute. http://www.learningpolicyinstiute.org/product/nassp-understanding-addressing-principal-turnover-review-research-report

Levin, S., Scott, C., Yang, M., Leung, M., & Bradley, K. (2020). *Supporting a strong, stable principal workforce: What matters and what can be done*. NASSP. https://files.eric.ed.gov/fulltext/ED606481.pdf

Lochmiller, C. R. (2014). Leadership coaching in an induction program for novice principals: A 3-year study. *Journal of Research on Leadership Education, 9*(1), 59–84. https://doi.org/10.1177/1942775113502020

Lopez, S. J. (2013a, October 1). Making hope happen in the classroom. *Kappan Magazine, 95*(2), 19–22. https://kappanonline.org/making-hope-happen-classroom-lopez/

Lopez, S. J. (2013b). *Making hope happen: Create the future you want for yourself and others*. Atria Paperback.

Louis, K. S., Leithwood, K., Wahlstrom, K. L., & Anderson, S. E. (2010, July). *Investigating the links to improved student learning final report of research findings*. Wallace Foundation. http://www.wallacefoundation.org/knowledge-center/Pages/Investigating-the-Links-to-Improved-Student-Learning.aspx

Lowery, S. (2014). A mixed-methods study of principal efficacy and transformational leadership in Canada. *International Studies in Educational Administration, 42*(3), 33–54.

Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. Association for Supervision and Curriculum.

Mascall, B., & Leithwood, K. (2010). Investing in leadership: The district's role in managing principal turnover. *Leadership and Policy in Schools, 9*(4), 367–383. https://doi.org/10.1080/15700763.2010.493633

McLeod, S., & Dulsky, S. (2021, March). Resilience, reorientation, and reinvention: School leadership during the early months of the COVID-19 pandemic. *Frontiers in Education, 6*, Article 70. https://doi.org/10.3389/feduc.2021.637075

Merriam-Webster. (2020). Perseverance. https://www.merriam-webster.com/dictionary/perseverance

Mills, G. E., & Gay, L. R. (2016). *Educational research competencies for analysis and applications* (11th ed.). Pearson.

Morowski, D. L. (2009). Meeting the needs of Texas school children: The Texas Minimum Foundation School Program. *American Educational History Journal, 36*(2), 327-340.

Murphy, S. E., & Johnson, S. K. (2016). Leadership development and leader developmental self-efficacy: Their role in enhancing leader development efforts. *New Directions for Student Leadership, 2016*(149), 73–84. https://doi.org/10.1002/yd.20163

Myung, J. L., Loeb, S., & Horng, E. (2011). Tapping the principal pipeline: Identifying talent for future school leadership in the absence of formal succession management programs. *Educational Administration Quarterly, 47*(5), 695–727. https://doi.org/10.1177/0013161X11406112

National Association of Secondary School Principals. (2017). *Position statement: Principal shortage*. Policy and Advocacy Center. https://www.nassp.org/wp-content/uploads/2020/06/Principal_Shortage.pdf

National Association of Secondary School Principals. (2021). *NASSP survey signals a looking mass exodus of principals from schools*. https://www.nassp.org/news/nassp-survey-signals-a-looming-mass-exodus-of-principals-from-schools/

Olson, M. H., & Hergenhahn, B. R. (2013). *An introduction to theories of learning* (9th ed.). Routledge Taylor & Francis Group.

Pierce, S. (2014). Examining the relationship between collective teacher efficacy and the emotional intelligence of elementary school principals. *Journal of School Leadership, 24*(2), 311–335. https://doi.org/10.1177/105268461402400204

Reinhart, A. M. (2017). Multivariate analysis of variance (MANOVA). In M. Allen (Ed.), *The SAGE encyclopedia of communication research methods* (pp. 2–7). SAGE Publications.

Reyes-Guerra, D., Maslin-Ostrowski, P., Barakat, M. Y., & Stefanovic, M. A. (2021, March). Confronting a compound crisis: The school principal's role during initial phase of the COVID-19 pandemic. *Frontiers in Education, 6*, Article 87. https://doi.org/10.3389/feduc.2021.617875

Robertson-Kraft, C., & Duckworth, A. L. (2014). True grit: Trait-level perseverance and passion for long-term goals predicts effectiveness and retention among novice teachers. *Teachers College Record, 116*(3). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4211426/

Rousmaniere, K. (2007). Go to the principal's office: Toward a social history of the principal in North America. *History of Education Quarterly, 47*(1), 1–22. https://doi.org/10.1111/j.1748-5959.2007.00072.x

Rousmaniere, K. (2013, November 8). The principal: The most misunderstood person in all of education. *The Atlantic*. https://www.theatlantic.com/education/archive/2013/11/the-principal-the-most-misunderstood-person-in-all-of-education/281223/

Samora, J. B., Ficke, J. R., Mehta, S., & Weber, K. (2019). True grit in leadership: 2018 AOA critical issues symposium addressing grit, sex inequality, and underrepresented minorities in orthopaedics. *The Journal of Bone and Joint Surgery*, *101*(10), Article e45. https://doi.org/10.2106/JBJS.18.01276

Schaufeli, W. B., & Salanova, M. (2007). Efficacy or inefficacy, that's the question: Burnout and work engagement, and their relationships with efficacy beliefs. *Anxiety, Stress, and Coping*, *20*(2), 177–196. https://doi.org/10.1080/10615800701217878

Schimschal, S. E., & Lomas, T. (2019). Gritty leaders: The impact of grit on positive leadership capacity. *Psychological Reports, 122*(4), 1449–1470. https://doi.org/10.1177/0033294118785547

Senge, P. M. (1990). *The fifth discipline*. Crown Business.

Silva, J. P., White, G. P., & Yoshida, R. K. (2011). The direct effect of principal-student discussions on eighth grade students' gains in reading achievement: An experimental study. *Educational Administration Quarterly, 47*(5), 772–793. https://doi.org/10.1177/0013161X11404219

Sinek, S. (2009). *Start with why: How great leaders inspire everyone to take action*. Penguin Group.

Sinek, S. (2016). *Together is better: A little book of inspiration*. Penguin.

Skaalvik, C. (2020). School principal self-efficacy for instructional leadership: Relations with engagement, emotional exhaustion and motivation to quit. *Social Psychology of Education, 23*(2), 479–498.

Stoltz, P. G. (2015). Leadership grit: What new research reveals. *Leader to Leader, 2015*(78), 49–55. https://doi.org/10.1002/ltl.20205

Superville, D. R. (2019, December 19). Principal turnover is a problem: New data could help districts combat it. *Education Week, 39*(18), 1–10.

Texas Education Agency. (2020). *Texas academic performance reports*. http://tea.texas.gov/perfreport/tapr/index.html

Tough, P. (2011, September 18). What if the secret to success is failure? *The New York Times Magazine.* https://www.nytimes.com/2011/09/18/magazine/what-if-the-secret-to-success-is-failure.html

Tschannen-Moran, M., & Gareis, C. R. (2004). Principals' sense of efficacy: Assessing a promising construct. *Journal of Educational Administration, 42*(5), 573–585. https://doi.org/10.1108/09578230410554070

Usher, E. L., Li, C. R., Butz, A. R., & Rojas, J. P. (2019). Perseverant grit and self-efficacy: Are both essential for children's academic success? *Journal of Educational Psychology, 111*(5), 877–902. https://doi.org/10.1037/edu0000324

Versland, T. M. (2013). Principal efficacy: Implications for rural 'grow your own' leadership programs. *Rural Educator, 35*(1). http://doi.org/10.35608/ruraled.v35i1.361

Versland, T. M. (2016). Exploring self-efficacy in education leadership programs: What makes the difference? *Journal of Research on Leadership Education, 11*(3), 298–320. https://doi.org/10.1177/1942775115618503

Wahlstrom, K. L., Louis, K. S., Leithwood, K., & Anderson, S. E. (2010). *Investigating the links to improved student learning*. Wallace Foundation. https://www.wallacefoundation.org/knowledge-center/Documents/Investigating-the-Links-to-Improved-Student-Learning-Executive-Summary.pdf

Williams, S. M., & Welsh, R. O. (2017). ESSA and school improvement: Principal preparation and professional development in a new era of education policy. *Journal of School Leadership, 27*(5), 701–724. https://doi.org/10.1177/105268461702700505

APPENDIX A

APPENDIX A

Study Survey

Principal Efficacy, Grit & Persistence Survey

Informed Consent This survey is being conducted by Maria Veronica Garza-Kortan, University of Texas Rio Grande Valley, Doctoral Candidate at The University of Texas Rio Grande Valley.
The purpose of this study will be to examine if a relationship exists between self-efficacy and grit of selected principals; what differences, if any, in self-efficacy and grit exist among principals who participate in a principal development program and those who do not; and, if differences in self-efficacy, grit and persistence exist in the job role among selected principals with varying years of experience.
This survey should take about 15 to 20 minutes to complete.

Participation in this research is completely voluntary. If there are any questions which you are uncomfortable with answering, feel free to skip that question and leave the answer blank. Also, please be aware that you are entitled to withdraw from the study and terminate your participation at any time without question or comment.

All survey responses received will be treated confidentially and stored on a secure server. However, given that the surveys can be completed from any computer (e.g., personal, work, school), there is no guarantee of the security of the computer on which you choose to enter your responses. As a participant in this study, please be aware that certain technologies exist that can be used to monitor or record data and/or websites that are visited.

Any individually identifiable responses will be securely stored and will only be available to those directly involved in this study. De-identified data may be shared with other researchers in the future, but will not contain information about any specific individual identity. This research has been reviewed and approved by the University of Texas Rio Grande Valley Institutional Review Board for Human Subjects Protection (IRB). If you have any questions about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, please contact the IRB at (956) 665-3598 or irb@utrgv.edu.

Please indicate your response below.

- ○ Yes, I agree to participate in this survey. (1)
- ○ No, I do not agree to participate in this survey. (2)

Q1 Select the name of your district.

- ○ Aldine ISD (1)
- ○ Arlington ISD (2)
- ○ Grand Prairie ISD (3)
- ○ Harlingen CISD (4)
- ○ Judson ISD (5)
- ○ Klein ISD (6)
- ○ Lamar CISD (7)
- ○ Lockhart ISD (8)
- ○ Mesquite ISD (9)
- ○ PSJA ISD (10)
- ○ Round Rock ISD (11)
- ○ Spring ISD (12)

Q2 Select your gender.

- ○ Male (1)
- ○ Female (2)

Q3 Select the age range that best describes you.

- ○ Younger than 30 years of age (1)
- ○ 31 - 40 years of age (2)
- ○ 41 - 50 years of age (3)
- ○ 51 - 60 years of age (4)
- ○ 60+ years of age (5)

Q4 Select the school level for your current principal assignment.

- ○ Elementary (1)
- ○ Middle School / Junior High (2)
- ○ High School (3)

Q5 Please select the range of years of experience as a CAMPUS PRINCIPAL. When responding, include only the years in the role of campus principal.

- ○ This is my first year as a campus principal. (1)
- ○ 1 - 3 years as a campus principal (2)
- ○ 4 - 6 years as a campus principal (3)
- ○ 7 - 10 years as a campus principal (4)
- ○ 11 - 15 years as a campus principal (5)
- ○ 16+ years as a campus principal (6)

Q6 Select the range of years of experience as a CAMPUS ADMINISTRATOR. (When responding, include the years of experience in any campus administration role, inclusive of roles such as dean, assistant principal, principal or any role of the equivalent.)

- ○ 1 - 3 years as a campus administrator (1)
- ○ 4 - 6 years as a campus administrator (2)
- ○ 7 - 10 years as a campus administrator (3)
- ○ 11 - 15 years as a campus administrator (4)
- ○ 15+ years as a campus administrator (5)

Q7 This part of the survey is designed to help gain a better understanding of the kind of things that create challenges for principals. Please indicate your opinion about each of the questions below by marking one of the nine responses in the columns on the right side. The scale of responses range from "None at All" (1) to "A Great Deal" (9), with Some Degree (5) representing the mid-point between these low and high extremes. You may choose any of the nine possible responses, since each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position. There are 18 items in this section.

	None at All (1) (1)	(2) (2)	Very Little (3) (3)	(4) (4)	Some Degree (5) (5)	(6) (6)	Quite a Bit (7) (7)	(8) (8)	A Great Deal (9) (9)
facilitate student learning in your school? (1)	○	○	○	○	○	○	○	○	○
generate enthusiasm for a shared vision for the school? (2)	○	○	○	○	○	○	○	○	○
handle the time demands of the job? (3)	○	○	○	○	○	○	○	○	○
manage change in your school? (4)	○	○	○	○	○	○	○	○	○
promote school spirit among a large majority of student population? (5)	○	○	○	○	○	○	○	○	○
create a positive learning environment in your school? (6)	○	○	○	○	○	○	○	○	○

raise student achievement on standardized tests? (7)	○	○	○	○	○	○	○	○	○
promote a positive image of your school with the media? (8)	○	○	○	○	○	○	○	○	○
motivate teachers? (9)	○	○	○	○	○	○	○	○	○
promote the prevailing values of the community in your school? (10)	○	○	○	○	○	○	○	○	○
maintain control of your own daily schedule? (11)	○	○	○	○	○	○	○	○	○
shape the operational policies and procedures that are necessary to manage your school? (12)	○	○	○	○	○	○	○	○	○

handle effectively the discipline of students in your school? (13)	○	○	○	○	○	○	○	○	○
promote acceptable behavior among students? (14)	○	○	○	○	○	○	○	○	○
handle the paperwork required of the job? (15)	○	○	○	○	○	○	○	○	○
promote ethical behavior among school personnel? (16)	○	○	○	○	○	○	○	○	○
cope with the stress of the job? (17)	○	○	○	○	○	○	○	○	○
prioritize among competing demands of the job? (18)	○	○	○	○	○	○	○	○	○

Q8: Please respond to the following 8 items. Be honest – there are no right or wrong answers.

	Very Much Like Me (1)	Mostly Like Me (2)	Somewhat Like Me (3)	Not Much Like Me (4)	Not Like Me At All (5)
New ideas and projects sometimes distract me from previous ones. (1)	○	○	○	○	○
Setbacks don't discourage me. (2)	○	○	○	○	○
I have been obsessed with a certain idea or project for a short time but lost interest. (3)	○	○	○	○	○
I am a hard worker. (4)	○	○	○	○	○
I often set a goal but later choose to pursue a different one. (5)	○	○	○	○	○
I have difficulty maintaining my focus on projects that take more than a few	○	○	○	○	○

months to complete. (6)					
I finish whatever I begin. (7)	○	○	○	○	○
I am diligent. (8)	○	○	○	○	○

APPENDIX B

APPENDIX B

Email to Participants

Dear Principals,

I am M. Veronica Garza- Kortan, a doctoral student at The University of Texas Rio Grande Valley and am conducting research on principal efficacy, grit and persistence and my study has been approved to be conducted in your district.

The role of the principal is an attractive topic for this study because "strong and stable school leadership is critical for success in schools across the nation" (Levin, Scott, Yang, Leung & Bradley, 2020, p. 3. You have been selected to participate in this study as a result of your district's involvement in a leadership pipeline cohort. Principals have been met with great challenges and there has arisen a need to better understand the role of self-efficacy and grit as they pertain to persistence in the principalship and in principal development (Levin & Bradley, 2019; Louis, Leithwood, Wahlstrom & Anderson, 2010).

The results of the survey will be reported and published anonymously in aggregate form and specific district or principal information will not be divulged. Participation in this research is completely voluntary. If there are any questions which you are uncomfortable with answering, feel free to skip that question and leave the answer blank. This survey will not have any individually identifiable responses. Also, please be aware that you are entitled to withdraw from the study and terminate your participation at any time without question or comment.

To access the survey, click the link provided below.

For this survey, please select District 4 to indicate your affiliation with Harlingen CISD.

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_571E1OfQPCdlGh7

If you have any questions about this survey, please contact me at 956-453-4647 or via e-mail at maria.garza20@utrgv.edu. Below is the link to the survey for this study. The survey may be completed on any electronic device, inclusive of mobile devices. The survey is comprised of three parts. Part I includes demographic questions, Part II include questions regarding principal self-efficacy and Part III includes questions regarding grit. The estimated time for the survey is 15 to 20 minutes. Your participation in this survey is strictly voluntary and your submission of the survey indicates your consent to participate. Responses will be securely stored and will only be available to those directly involved in this study. De-identified data may be shared with other researchers in the future but will not contain information about any specific individual identity.

Thank you in advance for your participation and contribution to my doctoral endeavor. The results of this study will advance the work of principal development and strengthen practices for building the principal pipeline.

With much gratitude and appreciation,

M. Veronica Garza-Kortan

Doctoral Student

University of Texas – Rio Grande Valley

BIOGRAPHICAL SKETCH

This study, *A Study of Self Efficacy, Grit, Persistence, and Professional Development of Select Texas Public School Principals Participating in the Principal Pipeline Program*, occurred between Spring 2021 and Fall 2021. The principal investigator, Maria Veronica Garza-Kortan, conducted the study as part of the requirements for a Doctor of Education (Ed.D.) through the University of Texas Rio Grande Valley.

Garza-Kortan earned a Bachelor of Science in Biology at the University of Texas at San Antonio in 1998. In August 1998, she attended the University of Texas at Brownsville, where she completed an alternative certification program. In May 2011, she earned a Master's in Educational Leadership. She embarked on her doctoral journey in January 2018 at the University of Texas Rio Grande and completed all the requirements for a Doctor of Education in May 2022.

At the time of doctoral program completion, Maria Veronica Garza-Kortan was the Assistant Superintendent for Leadership and Innovation for the Harlingen Consolidated Independent School District. Garza-Kortan has held various roles in the school district, from teacher to facilitator to principal. In August 2007, she was the founding principal of the Harlingen Consolidated Independent School District Early College High School. Garza-Kortan can be reached via email at mvkortan@gmail.com.